

eWOM: The effects of online consumer information adoption on purchasing decision

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Abstract

When making a purchasing decision, it has been more common for consumers to refer to the eWOM (electronic word-of-mouth). Based on ELM (Elaboration Likelihood Model), we take the message receivers, who are consumers referring to the eWOM, as our target. We mainly use willingness and ability as their adjustment when making a decision, trying to discuss whether argument quality and source credibility would influence their degree of information adoption. Our research takes 380 users in <telnet://ptt.cc> as our samples. The result reveals that most users support our research hypothesis. It shows that argument quality and source credibility strikingly influence the extent of information adoption of message receivers; however, the degree of relationships is not relevantly strong. Besides, the involvement of messages receivers would notably adjust the effects of adopting eWOM; yet, the expertness would only adjustt the relationship between the argument quality and information adoption.

Key Words : eWOM, Elaboration Likelihood Model, information adoption

1.Introduction

The rise of Internet makes communication of marketing more complicated and more changeable. Moreover, the integration of E-commerce lets the opportunities in the Internet unbounded. Indeed, the Internet does make the purchasing behaviors more convenient; yet, from the figures of surveys, though the Internet brings us convenience, in order to lower down the uncertainty, the consumers will seek more information to reduce their psychological risks. The behavior of searching information is a vital antecedent for them before making a purchasing decision. One of the most important procedures for consumers before purchasing is to search information. Solomon (1997) defines "information searching" as a process of searching when the consumers face a purchasing issue, they need all kinds of information to help them make a decision. When they confirm their needs, they would use any methods to find out enough related information to help them make a decision. This searching behavior is called information searching. The sources of information are mainly divided into two parts: the internal and external search. Generally speaking, when consumers face the common issues, they're used to adopting the internal search. If the information is not enough for them to make a decision, or the issues they are facing is more important, they would start the external search, such as from advertising, salespeople, family members, or friends, to gain related information (Bettman, 1979).

No matter consumers believe or not, the word-of-mouth will affect their decisions. Its power is greater than any mass media, and it brings more satisfying outcomes than the advertising (Gelb and Johnson, 1995) since it offers a reliable and trustable opinion. (Day, 1971)

The research of eWOM has many dimensions. Ours mainly focuses on how and

why the eWOM is adopted by the message receivers. This study uses the opinion of communication persuasion to discuss how the information in the Internet convinces the message receivers. If they need high degree of persuasiveness, what factors should they consider? The discussion of these factors provides the enterprises a valuable reference when they are laying out marketing plans. Dual-process model proposed by Watts and Schneier (2003) and Technology Acceptance Model (TAM) construct the Model of Information Adoption of organizations in the Internet. It explains that involvement and expertness of message receivers would influence their degree of information adoption. Fishbein and Ajzen (1975) presents Theory of Reasoned Action (TRA), clarifying that before people generate behaviors, they need to have the attempts, which are formed from the change of attitudes and from personal evaluation on the result of the behavior. Nonetheless, though TRA explains the process of producing behaviors of human beings, the change of attitudes itself is like a black box. It could directly trigger the attempts, and then produces the behaviors. When it applies to the consumers, it is the purchasing behavior. The change of attitude itself is a process of being persuaded. Many scholars have gradually started to research the reasons of change of attitudes and its procedure, expecting to predict the behaviors.

This study claims that in the Internet, if the information wants to convince the message receivers, it needs to take the personality of the receivers into consideration. Petty and Cacioppo (1981) propose Elaboration Likelihood Model (ELM), which integrates relevant theories of change of attitudes and of persuasiveness. It shows that the involvement and the expertness of consumers would influence their attitudes on the products. Furthermore, it affects their purchasing willingness. We use this theory as our main foundation.

2. Literature Review

2.1 WOM and eWOM

Word-of-mouth (WOM) means the information-communicating behavior produced from the passer and receiver face-to-face (Arndt, 1967). This is a non-commercial attempt; also, it is a process of message communication through talking about some brand, product, or service. Since word-of-mouth is a communication behavior of face-to-face and without commercial attempt to exchange ideas, through discussion and message interchange of each other, it generates more information and understanding with specific merchandise or service. Further, it impacts not only the evaluation of the object, but also their willingness of consumption. Hence, word-of-mouth is deemed as a more independent, reliable, and trustworthy source of information. In addition, it possesses great effect of communication and influence, which are generally esteemed and invested by academics and industries. (Silverman, 1997; Henricks, 1998; Gilly et al., 1998; Bansal and Voyer, 2000)

During the discussion of change of opinion and of information communication in early Social Science, word-of-mouth had been discovered that it had great impact on consumers' purchasing decisions (Wilke, 1934; Cantril and Allport, 1935; Knower, 1935; Doob, 1948). In the researches and case studies, they all proved that word-of-mouth brought much more influence than other mass media did, such as newspapers, magazines, salespeople, broadcast, or TVs. From the researches, it's found that the advertising promotion only increases the products' media exposure to the consumers. As the consumers make the final decision, word-of-mouth plays a much more critical role than any other marketing tools do (Arndt 1967; Herr et al.

1991; Katz and Lazarsfeld 1955; Gilly et al. 1998). No matter on brand-shifting or change of attitude, even the shaping of loyal customers, word-of-mouth still has its critical influence for us no choice but to pay much attention to it (Bristor, 1990; Katz and Lazarsfeld, 1955; Day, 1971). The high degree of persuasion and strong effect of change are resulted from higher trust for consumers than common mass media, like advertising, could bring (Bristor, 1990). Besides, the communication of word-of-mouth is not based on the commercial motivation; rather, it's a two-way communication which is interactive and instantaneous. Under the message-exchanging mode of independence and highly involvement, after a series of presentation, explanation, discussion, and suggestion, word-of-mouth alters the behaviors and evaluation. It also effectively lowers down the perceived risks, and decreases the uncertainness. Consequently, word-of-mouth is usually regarded as higher trust (Derbaix and Vanhamme, 2003).

The definition of eWOM (electronic word-of-mouth) is that through Internet, potential or present customers show their opinions, which might be either positive or negative, on some product or company to other people. Then, by just browsing the web pages, other customers would gather the information of the products or join the discussion provided by other consumers. Moreover, eWOM gives customers the abilities of sharing their personal experiences, opinions, and related knowledge for specific topics (Hennig-Thurau et al., 2004). Compared to the traditional word-of-mouth, which shares information of products face-to-face or oral communication, eWOM, on the contrary, shares personal experience to others in the Internet (Herr et al., 1991). Due to the rapid rise of Internet, traditional word-of-mouth evolves into eWOM, making the communication efficiency, expression of intention, and change of exposure period have greater difference than these in the past. Through

Internet, some word-of-mouth in the past, such as customers' opinions, experience, and remarks, etc, are not only circulated between consumers, but also spread out by some Internet Media, such as Discussion Board, Chatting Room, and Message Board, becoming a new model of word-of-mouth (Gelb and Sundaram, 2002; Hennig-Thurau et al., 2004).

2.2 Adoption Theory

As a vital reference, word-of-mouth does influence consumers' behaviors. So, many scholars start to research the factors of effective persuasion of word-of-mouth. Hovland, Janis and Kelly (1953) proposed Theory of Persuasive Communication. They divide factors that would influence the effect of communication into three dimensions: Source, Message, and Receiver. The factor of source includes message providers' expertness (Gilly et al., 1998; Bansal and Voyer, 2000), affinity, credibility (Dichter, 1996; Rogers, 1983; Robertson et al., 1984), and their social background, like religions, statuses, and races. The factor of Message contains argument quality, claims, and conclusions. The factor of Receiver covers the existing opinions of the receivers, involvement, persuasion and personality. Other researches also addressed some factors affecting the effect of word-of-mouth:

1. Homogeneity between the receivers and the senders (Gilly et al., 1998).
2. Interpersonal tie-strength (Brown and Reingen, 1987; Bansal and Voyer, 2000).
3. Level of perceived risks (Arndt, 1967; Roselius, 1971).
4. Intangibility, heterogeneity of services (Ziethaml, 1981).

Persuasion is a process of changing others. In general, change involves change of belief, change of attitude, and change of behavior. For instance, when we are trying to convince others paying much attention to environment protection, we need to offer them information of changing climates, which might influence the receivers to change

their attitudes, so that their behaviors would further be influenced. Persuasion is a communication of changing other's attitude. The attitude here means the degree of evaluation of some affairs, such as like and hate, or prove and disprove (Eagly and Chaiken, 1993). Hovland, Janis, and Kelly (1953) began to systematically research the process of persuasion. Based on recognition steps of learning process, they categorize the factors that would influence the process of learning. Steps of learning a new message involve: attention, comprehension, yielding, and retention. McGuire (1969) added two more steps, becoming: reception, attention, comprehension, yielding, retention, and acceptance. Greenwald (1969) supplemented another phase, the elaboration. In this learning process, each step might exist the critical factor influencing the receivers' attitudes.

According to Sussman and Siegal (2003), Theory of Acceptance described the process when people started to do some activities for their first time. It exist two typical researches for this, which is TRA (Theory of Reasoned Action, Ajzen and Fishbein, 1980) and TAM (Technology Acceptance Model, Davis, 1989). According to TRA and TAM, when people are trying to accept one message, they would weigh up the belief and evaluation of results of their own. That is, the occurrence of acceptance is usually the result after they accept, which exist some degree of trust and expectation. When applied to the Internet, as mentioned above, the development of Internet nowadays has made the information here become an important source of reference as consumers are making a purchasing decision. Scholars often evaluate the effect of persuasion of eWOM through the receivers' acceptance degree. What is more, this evaluation reflects that if the receivers have higher acceptance of eWOM, meaning higher intention of acceptance, we would presume that it would notably affect their purchasing behaviors (Gilly et al., 1998).

2.3 Elaboration Likelihood Model (ELM)

However, what changes peoples' attitudes? The process of change of attitudes itself is like a black box. ELM proposed by Petty and Cacioppo (1984) tried to combine the paradoxical discoveries in the past into one systematic explanation. ELM regards that the process of persuasion has two parts: Central Route and Peripheral Route. The former denotes that as people possess some motivations or abilities, they would carefully consider all information they have. This is a high elaboration. The latter signifies that as people are lack of motivations or abilities, they would be persuaded by some peripheral clues, like subjective impression or consensus. And this is a low elaboration. Diverse people have diverse elaboration likelihood under diverse situations, which also produces diverse strategies of persuasion.

The two significant situational variables below would influence the selection of the persuasion:

1. Involvement: Does the message receiver have the motivation to handle them? And the factor affecting their motivation lies in the relevance between the message and the receiver. That is, the involvement of the message receiver.
2. Self-efficacy: Does the message receiver have the ability to handle them? And the factor affecting their ability is the receiver's knowledge of the message.

If one has higher motivation and ability, he or she would tend to choose Central Route; otherwise, they would tend to choose Peripheral Route. For example, supposed that one has higher willingness and ability to understand one product, using appropriate introduction would bring positive purchasing attitudes. Otherwise, it needs to use other peripheral design of purchasing situation to guide them to take notice of peripheral messages. In other words, theory of ELM highlights the receiver's

personality and discusses which decision route would they choose.

Petty and Cacioppo (1986) pointed out that if one endeavors to devote himself to persuasion communication, argument quality would cause the divergence of informational influence. Based on the researches of information acceptance by Petty and Cacioppo (1986), and Sussman and Siegal (2003), this study references ELM. The Central Route is deemed as argument quality. When the planning level is higher, the argument quality brings a critical impact on informational influence. Otherwise, the peripheral clues have higher impact on informational influence.

Though ELM provides a perfect architecture to explain the decision route when making a decision, the Internet might construct a close relation between the sender and the receiver. And this linkage is the most direct and most effectively influential factor in word-of-mouth (Gilly et al., 1998). This interpersonal relationship would immediately influence the degree of acceptance. In this research, this tie-strength even skips the step of elaboration. Since in the real life, messages provided by the intimate people are usually the chief source of making decisions. Hence, the tie-strength should be contained in our discussion on informational influence.

2.4 Source Credibility

Source Credibility is widely used as some positive personality which message providers have and they would affect the acceptance level of message receivers (Ohanian, 1990). From several researches of estimation on Source Credibility, we find that the message receivers themselves would determine the credibility of messages released by media through some criteria. Gunther (1992) noted that Source Credibility means one attitude that the public have on the source. When this reaction which the receiver has from the media is applied on psychological cognition level of the receiver,

it shows trust or distrust on this message. From the source of message, conviction with high credibility would be more evident than it with low credibility (McGinies, 1973). The study shows that message source with high credibility would influence the message receiver easier than that with low credibility, which makes the receivers have positive attitudes on the advertising messages. Hovland et al. (1953) proposed that source credibility should be divided into three dimensions, which are trustworthiness, expertness and likability. McGuire (1958) was the first one to discuss attraction. What is more, Berlo, Lemert, and Mertz (1969) addressed three dimensions which are safety, qualification, and dynamism. Simpson and Ruel (1980, 1981) induced Source Credibility into expertise, dynamism, believability, and sociability. Trustworthiness, expertness, affinity, and attraction were listed as four dimensions of Source Credibility (DeSarbo and Richard, 1985).

2.4.1 Trustworthiness

Hovland et al. (1953) interpreted trustworthiness as that the sender tries to send a message that he regards as high credibility. Giffin (1967) reviewed the concept of ethos proposed at the age of Aristotle, and the concept of Source Credibility proposed by scholars at later time. He thinks that they all point to the same concept, which is the trust of the audiences have on the sender. This kind of trust is the trustworthiness. Giffin also proposed that trust is composed of favorable disposition, acceptance, psychological safety, and perceived supportive climate. Friedman and Traina (1979) found that spokesmen favored by others would relatively be trusted. Trustworthiness means the degree of justice and objective of the message source that the consumers think.

2.4.2 Expertness

According to Hovland et al.(1953), expertness is the second dimension of Source Credibility. It explains that the sender is regarded as the provider of topic with persuasion. Whithead (1968) thought of it as competence. Applbaum and Anatol (1972) deemed it as the expertness. Berlo, Lemert, and Mertz (1969) regarded it as qualification. In addition to these, researches of Persuasion Communication also found that expertness would affect the consumers' attitudes (Naccari, 1974; Maddux and Rogers, 1980). In the dimension of expertness, it must possess some factors so that it would give the consumers the image of authority. And these factors are mostly from their expertise or experience. For instance, Maddux and Rogers (1980) believed that expertise is message-relevant, instead of the wisdom, age, or status of the spokesman. Ohanian (1990) hold that the definition of the spokesman's expertness is they possess domain knowledge to judge the product. As a message communicator, whether the spokesmen own the expertness or not would play a critical role on the buyers' purchasing decisions. The expertness and topics they claimed would produce interaction with the consumers. Generally speaking, when these characteristics are matched, it would bring more benefit on the attitude and purchasing willingness of consumers. Ohanian (1991) also found that expertness would influence the consumer's buying intention more than attraction and trustworthiness.

2.5 Argument Quality

In the communication persuasion, when the content or architecture of the message is mentioned, the argument quality is also important. Discussion on argument quality is mainly focused on its persuasion. In general, when the receivers deem this message as a strong concept with correct inference and well proof, they would expect the effect of persuasion would be stronger than a weak concept with poor-quality proof (O'Keefe, 1990). Then, the most detailed research on this variable – the

argument quality, is from the research of ELM by Petty and Cacioppo. Based on the receivers' preference, Petty and Cacioppo (1986) divided the argument quality into strong message and weak message. They respectively defined them. The former one means the thought of the target would be bound to their preference when they are conducted with topics containing guided messages. The latter one means the thought of the target would be bound to their dislike when they are conducted with topics containing guided messages. Wood, Kallgren, and Preisher (1985) defined the strong message as message with proof of high credibility and of related statistics. On the contrary, weak message is message with proof of lower credibility. Under this viewpoint, strong message makes the receiver's attitude bound to the positive side, and vice versa.

2.6 Tie Strength

Tie Strength represents the relationships between entity to entity under social network, which is multi-dimensional (Money, Gilly, and Graham, 1998). It is also separated into weak ties and strong ties; however, both of them do not have specific differentiation (Marsden and Campbell, 1984). For instance, Granoveretter (1973) uses a sequence to illustrate the social relationship between consumers and others. He thinks that tie strength could be evaluated by four attributes, which are Amount of Time, Emotional Intensity, Intimacy, and Reciprocal Services, and could be selected based on diverse considerations. Granovetter judges the degree of tie strength by frequency of contact. He thinks that every week if the frequency of contact is less than two, it belongs to weak ties. Otherwise, it would be strong ties. That is, compared to the entity of weak ties, entity with close relationship usually possesses frequent contact. Also, the frequency and tie strength are reciprocal causation, which form a sequence of positive feedback (Robertson et al., 1984). On the one hand, since high

frequency of interaction would enforce the involvement and dependence of each other's life, which would become close related; on the other hand, the close relationship between each other would increase the frequency of interaction.

Fredkin (1980), on the contrary, judged the tie strength by the equivalence of both party's relationship direction. If the direction is two-way, the contact between them is a strong tie. If the direction is one-way, the contact between them is a weak tie. However, Erickson and Yancey (1980) deemed that as long as both parties have the relationship of friendship, kinsfolk, or neighbor, they could be claimed a strong tie. Perlman and Fehr (1987) differentiate a strong or a weak tie by offering assist or not. They discovered that entities with a strong tie would voluntarily offer the resources they have and there exists more supporting behaviors. Nonetheless, this would happen less in the weak ties. Besides, Marsden (1990) found that Reciprocal Services, Amount of Time, and Emotional Intensity roughly reveal positive correlation to Intimacy. Hence, he deemed that Intimacy is the indicator that would mostly reveal tie strength. In general, close relationship means a complex combination which possesses interaction with high frequency and involvement with high intimacy. To keep a close relationship, it must have long period of time and participation from both sides. Yet, a weak tie is a simple combination with involvement with low intimacy and without future promises.

For eWOM, the chief purpose of word-of-mouth is not only to decrease the perceived risks, but also to satisfy the needs of interaction of socialization. From the research, it was found that word-of-mouth usually exists between someone whom you are acquainted with (Anderson, 1998) since seeking word-of-mouth from them would not only give you reliable trust and lower searching costs, but further offer you a chance to interact with the society and to consolidate your relationships. Hence,

Bristor (1990) hold that the communication network of word-of-mouth is a social network to enhance each other's relationship, and discuss the word-of-mouth with each other. In short, the degree of the interpersonal relationship is a key factor to determine the effect of word-of-mouth (Engel et al., 1986; Brown and Reingen, 1987; Bansal and Voyer, 2000). The literature review proved that tie strength is prominently relevant to the behavior of word-of-mouth. Close relationship is one important source of information, and it easily leads to the communication of word-of-mouth. Nonetheless, researches in the past rarely mentioned the importance of tie strength in the Internet. Therefore, the influence between eWOM and tie strength could be further discussed.

2.7 Receivers Characteristics: Expertise and Involvement

The degree of expertness of the receiver influences not only their purchasing decision, but also their cognition of risk and their attitude of searching for word-of-mouth (Bansal and Voyer, 2000). Interestingly, the relationship between expertness of the receiver and attitude of searching for word-of-mouth brings about lots of opinions. Punj and Staelin (1983), and Johnson and Russco (1984), thought that existing knowledge would courage the receiver to search for word-of-mouth, since they could handle some more professional affairs faster and more easily. In another word, knowledge they already have would provide them higher analytic abilities and lower cognition cost. However, Furse et al. (1984), in his research on information-collecting behaviors on buying cars found that the expertness existed negative relationship with the preference of word-of-mouth. Meanwhile, Brucks (1985) also addressed the same viewpoint. Because the higher degree of expertness we have, the better ability we would own on the correct decision, and then, we don't need to search the word-of-mouth so often. In one word, we don't need to search for

related information; in the other word, searching word-of-mouth with higher degree of expertness than ours would increase the difficulty, which makes us feel higher searching costs. So, the degree of expertness that the receivers have should be negatively correlated with the searching activities the receivers do. Bloch et al. (1986) and Gilly et al. (1998) both supported Brucks (1985).

Concept of involvement would be traced back to Sherif and Cantril in 1947. It is the extent of how the consumers care on their buying or purchasing experience (Bolting, 1988). Also, it is a mental state of motivation or interest that could not be observed from exterior (Rothschild, 1984). Zaichkowsky (1985) defined it as relevance perceived by something based on internal needs, values, and interests. Laurent and Kapferer (1986) regarded that involvement is kindled by specific incentive, and it is motivating. Different involvement level would influence the collection and disposal of information, and the decision process. For this reason, involvement is seen as an individual difference variable, which affects the buyer's purchasing and communication behaviors.

2.8 Hypotheses

This thesis tries to discuss what the main reason is for consumers to adopt eWOM. Therefore, our dependent variable is the level of information acceptance of message receivers. And our independent variable encompasses Source Credibility, Argument Quality, and Tie Strength. In addition to these, our another focus is using Elaboration Likelihood Model (Petty and Cacioppo, 1984) to adjust quasi variable, which is whether the involvement level and degree of expertness of the message receiver would adjust the relationship between dependent and independent variables. Model of quasi variable is mostly modified from the Information Adoption Model in the organization in the Internet proposed by Watts and Schneier (2003).

This research extends the Information Acceptance Model proposed by Watts and Schneier (2003). It chiefly discusses the influence of ELM for consumers to adopt eWOM. Also, we choose Argument Quality as the central route, and Source Credibility as the peripheral route, and then, we propose hypothesis 1 and 2.

H1: the higher Source Credibility it is, the higher Acceptance Level for message receivers to adopt the information would be.

H2: the higher Argument Quality it is, the higher Acceptance Level for message receivers to adopt the information would be.

From many researches, tie strength of the message sender would influence the message receiver's behavior, and the influential range depends on the tie strength (Engel et al., 1986; Brown and Reingen, 1987; Frenzen and Nakamoto, 1993; Bansal and Voyer, 2000). When the tie strength is stronger between entities, it reveals that the relationship between them would be more intimate, and higher trust would exist between them (Rindfleisch and Moorman, 2001). So, we propose hypothesis 3.

H 3: when the tie strength between the message sender and the message receiver is closer, the acceptance level of the message receiver would be higher.

According to ELM (Petty and Cacioppo, 1986), the characteristics of the information receiver, such as their ability or motivation, would probably influence their Elaboration Likelihood. In another word, to understand what kind of degree of persuasion would produce when the consumer face eWOM, it has to understand whether the characteristics of the message receiver would influence the degree of Elaboration Likelihood, and would produce diverse adjustment of the acceptance of

information according to respective trace of the central route or the peripheral route. Take ability for example, according to Ratneshwar and Chaiken (1991), the degree of Elaboration Likelihood of the information receiver is usually related to their ability of processing information. The message receiver with higher background knowledge or with more enough experience on the message usually has higher involvement and analytic ability on the message. That is to say, they have higher degree of Elaboration Likelihood. According to ELM, the information receiver mentioned above would emphasize the central processes of information itself. Then, take motivation for example, when the message receiver has higher involvement on the product discussed by eWOM or strategy, according to ELM, they would have higher Elaboration Likelihood and choose the central route (Pett and Cacioppo, 1984). Otherwise, people with lower involvement would follow the peripheral route, such as Source Credibility, to make decisions. Hence, according to the inference above, we propose hypothesis 4 and 5.

H4a: the higher degree of expertise of the receiver, the lower influence on Source Credibility for them to adopt the information would be.

H4b: the higher degree of expertise of the receiver, the higher influence on Argument Quality for them to adopt the information would be.

H5a: the higher degree of involvement of the receiver, the lower influence on Source Credibility for them to adopt the information would be.

H5b: the higher degree of involvement of the receiver, the higher influence on Argument Quality for them to adopt the information would be.

According to the construction and inference of theory above, our architecture of theory on this research is shown in Fig. 2-1.

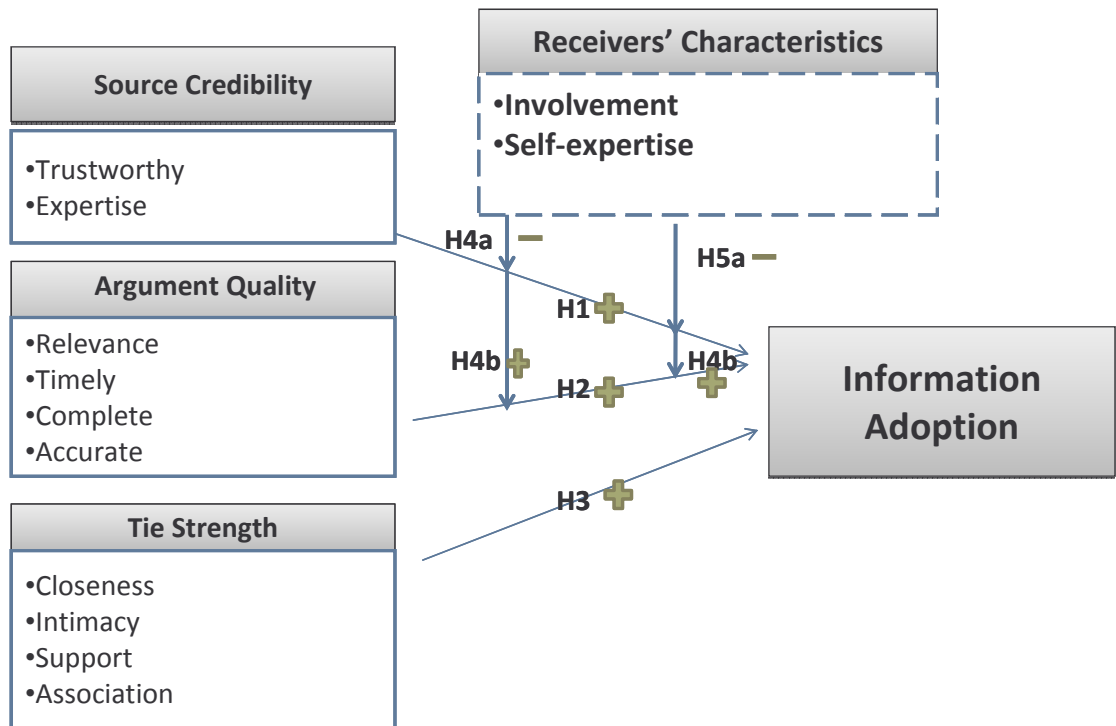


Fig. 2-1 Research Model

3. Research Methodology

Our dependent variable is Acceptance Level of eWOM, the independent variables are Source Credibility, Argument Quality, and Tie Strength, and the quasi variables are involvement and expertness. The operational definition of these variables is shown in table 3-1.

In this research, we use the Internet questionnaire built by Google to gain the figures. Our targets are users from BBS, Facebook, and other Blogs. The design of the questionnaire is the collection and filing from important International Journal Papers. All the questions use Likert five-point scales, and 1 means Strongly Disagree, 5 means Strong Agree. The questionnaire has two parts. The first investigates the basic information of the target, including their gender, age, educational background, experience, media they use, and their salary. The second part focuses on each research

dimension to evaluate from the questions. In this research, we use SPSS v14 as our analytic tool to statistically analyze. We receive 393 questionnaires back, 13 of which are invalid questionnaires. Before we release the questionnaire, we have conducted a pretest, which 10 PhD and Master students in NCTU participate. According to their opinions, we modify some content, trying to make the expression more understandable.

Table 3-1 operational definition of research variables

Variable Name	Operational Definition	References
Acceptance Level of Information	influence of eWOM on the receiver's purchasing decision	Gilly et al.(1998) Bansal and Voyer (2000)
Source Credibility	Expertness and trustworthiness of Message Source	Ohanian (1990 , 1991)
Argument Quality	Relevance, Correctness, Immediacy, and Integrity	Cheung et al.(2008) Wixom and Todd (2005)
Tie Strength	Intimacy and Acquaintance between the sender and the receiver of eWOM.	Frenzen and Davis (1990)
Involvement	Involvement of the product and of the purchase	Mittal (1995)
Expertness	Certification of expertness of the eWOM receiver	Gilly et al. (1998)

Validity means the correctness of the measuring tool and its measuring result. In another word, would the measuring tool correctly weigh up the respondent's characteristics? That is, it needs to achieve our purpose, so that it would be valid. The evaluation of validity of the measuring tool has three dimensions, which are Content Validity, Criterion Validity, and Construct Validity. Among them, Content Validity is a kind of qualitative validity, which is more objective; Criterion Validity and Construct Validity are based on the figures of experience.

From collection and filing of several related literature reviews and theories, the architecture, variables, dimensions, and related questions of this research we propose are deducted from related theories or empirical studies, which lets the questionnaire possess enough Content Validity.

Reliability means the credibility of the measuring tools. That is the stability and consistency of the research result. High stability signifies that when a group of people accept the same measuring tool under different time and space, the result has few divergences. High consistency denotes that when the same group of people accept every questionnaire with same property, same question-type, and same purpose, they could show strong positive correlation among each measuring result.

This research adopts commonly used Cronbach's α -confidence coefficient as an indicator. Guilford (1965) thought that if the Cronbach's α -confidence coefficient is higher than 0.7, it belongs to high reliability; between 0.5 and 0.7, it belongs to common reliability; lower than 0.3, it belongs to low reliability, and we should refuse to use this measuring tool. From the scales in Table 3-2, it shows that the total reliability is higher than 0.7, revealing this questionnaire has relatively high reliability.

Table 3-2 Cronbach's α -value of main dimension

Dimension	Questions before modification	Questions after modification	Cronbach's α -value after modification
Acceptance Level of Information	5	5	0.885
Source Credibility	9	8	0.907
Argument Quality	13	10	0.867
Tie Strength	4	4	0.891
Involvement	4	4	0.869
Expertness	4	4	0.890

4. Research Findings

Table 4-1 lists the sample structure of this thesis. From it, we can understand that most samples are female. The most proportion of educational background is College; then is Graduate School and above. The occupation mainly focuses on Students, and 30% of the samples are from Service Industry, Military or Government Employees, Manufacturing Industry and Freelancers. Monthly Salary is mostly occupied by below \$20,000. The product or service used is mostly occupied by Beauty Product and Clothing Accessory. And the Internet Platform used is mainly from BBS, Social Website, and Blog.

Table 4-1 Sample Composition

Characteristic	Category	Valid Samples	Proportion (%)
Gender	Male	52	13.9
	Female	327	86.1
Educational Background	Junior High School or Below	1	0.4
	Senior High School	17	4.4
	College	10	2.7
	University	275	72.5
	Graduate School or Above	76	20
Occupation	Student	254	66.9
	Freelancer	21	5.5
	Manufacturing	12	3.2
	Service	54	14.2
	Military or Government Employee	24	6.3
	Others	15	3.9
	Monthly Salary	\$20,000 or Below	270
\$20,001 ~ 40,000		94	24.7

	\$40,001 or Above	16	4.1
	Clothing Accessory	114	29.7
Internet Product or Service	Artist Shows	1	0.3
	Gourmet	29	7.6
	Beauty Product	188	49.5
	Electronic Product	49	12.9
	BBS	175	46.1
Internet Platform	Social Network	69	18.2
	Blog	120	31.6
	Others	16	4.1

Table 4-2 mainly tries to verify the architecture of theory proposed in this research. We reference Hair et al. (1998) to conduct the hierarchical regression analysis. Through this model, we analyze the influence of acceptance of information under the adjustment of Argument Quality, Source Credibility, Involvement of Tie Strength and Expertness of Receivers.

In the Model I, we have seven control variables to conduct regression analysis, which are Internet Platform, Internet Product, gender, age, occupation, educational background, and monthly salary. This model can explain the variance of 7 percent on the acceptance of information. Besides, Internet Platform, gender, age and educational background have great impact on the acceptance of information.

In the Model II, we use three independent variables to conduct regression analysis, which are Argument Quality, Source Credibility, and Tie Strength. Argument Quality and Source Credibility have stronger influence on the variance of acceptance of information than the control variables ($\Delta R^2=0.38, P<0.01$). The beta coefficient of these two variables also reveals stronger relevance. Hence, we presume that Hypothesis 1 and 2 have been supported; yet, Hypothesis 3 is not supported.

In the Model III, two quasi variables join the regression analysis. It turns out that

involvement and expertness of the receiver bring more influence on the acceptance of information than Model I and II ($\Delta R^2=0.07, P<0.01$). And the beta coefficient of these two reveals stronger relevance.

In the Model IV, we test the influence of quasi variables have on the acceptance of information of dependent variables. In this research, we totally have four groups of quasi variables to test. They are respectively (1) Source Credibility (SOC) and Involvement (Inv), (2) Argument Quality (AQ) and Involvement (Inv), (3) Source Credibility (SOC) and Expertness of the receiver (Exp), and (4) Argument Quality (AQ) and Expertness of the receiver (Exp). To avoid the generation of linear question, we reference Jaccard, Turrisi, and Wan (1990) and centered all the independent variables and quasi variables. According to Table 4-2, only the interaction between Source Credibility (SOC) and Expertness of the receiver is not strongly relevant, and the other three interactions are strongly relevant. Therefore, Hypothesis 4a is not supported, and Hypothesis 4b, 5a, and 5b are supported.

Table 4-2 Analysis of influence on Acceptance Level from Source Credibility, Argument Quality, and Tie Strength

Variable	Acceptance of Information			
	Model I	Model II	Model III	Model IV
Control Variable				
Internet Platform	-.20**	-.06	.04	-.01
Internet Product or Service	.07	.00	.03	.00
Gender	-.12**	-.05	.07	-.02
Age	-.11**	-.12 ⁺	.06 ⁺	-.05
Occupation	.07	.01	.02	-.01
Educational Background	.13**	.04	.04*	.10**
Monthly Salary	.03	.05	.05	.01
Independent Variable				
Argument Quality (AQ)		.07**	.07**	.45**
Source Credibility (SOC)		.06**	.06*	.11*

Tie Strength (Tie)	.02	.02	.00	
Quasi Variable				
Involvement (Inv)		.30**	.28**	
Expertness (Exp)		-.13**	-.14**	
Interactive Attribute				
SOC x Inv			-.11*	
AQ x Inv			.01*	
SOC x Exp			-.06	
AQ x Exp			.10*	
Model F	4.237	31.086	33.4	27.589
R^2	.07**	.46**	.52**	.55**
ΔR^2		.38**	.07**	.03**

Note 1 : All the coefficients in the table have been standardize betas

Note 2 : ⁺ $p < .10$; * $p < .05$; ** $P < .01$

5. Discussions and Conclusions

According to the analytic results above, we propose conclusion and suggestion as reference for future researches.

The development of Internet alters the mode of receiving messages for consumers. In the past, TVs and newspapers are the major media. To some extent, they could control the content of the information. The reader or listener is passively accepted the message. However, in the Internet, if you try understand how the message sent convince the consumer's purchasing decision, you have to notice that circumstance that the consumer is in has been different. Bansal and Voyer (2000) thought that the searching behavior in the Internet would bring direct influential power on the consumer's purchasing decision when they refer to eWOM. Consequently, if we try to use Internet as an information provider, some dimensions,

such as quality of information, match with the receiver, disclosure of complete information or the receiver's objective, are very vital for the seeker since people who refer to word-of-mouth have already understood what their needs are, and they are the people who actively seek communication (Arndt, 1976).

Compared to traditional word-of-mouth, some scholars even think Source Credibility of eWOM is higher than traditional marketing tools is from the needs, which make the consumer actively search eWOM (Bickart and Schindler, 2001). The statement, indeed, matches with the public's state of doubt on the exaggeration from TV news or advertisements. The Internet does not have exclusiveness. Everyone here can announce their opinions. Hence, compared to the traditional media, there are not interests or pressure from others, which in instead possesses authenticity (Gelb and Sundaram, 2002). The information sender even shares negative opinions. Yet, another characteristic in the Internet is anonymity. Though every one can say anything they like, it often produces irresponsible remarks (Newhagen, 1996), and this is why Source Credibility is an important factor that influences whether the message receiver adopts eWOM.

Tie Strength does not have strong relevance on the acceptance level of eWOM in our research result. This reflects two facts. First, in the Internet, Tie Strength can not be measured by traditional methods. Although we commonly use frequency of contact, degree of acquaintance and degree of intimacy as indicators to measure the intimacy with others, this is built under the condition of face-to-face. Yet, in the Internet, interaction with others can even be asynchronous at different time and space. For example, BBS is a kind of unidirectional discussing mode, and we can even review the history records (Markus, 1994; Newhagen and Rafaeli, 1996). So, when we talk about Tie Strength between the message receiver and the sender, it might be more

suitable for us to discuss the similarity between them, such as the homogeneity of buying preference, consideration of products, life type, or statistics of population (Gilly, Graham, Wolfinbarger, and Yale, 1998). Second, different platforms have different linkages. For example, the linkage between Facebook and BBS is tremendously different. BBS is a totally open platform; however, Facebook combines the friends you are acquainted with, or the fans group sponsored by the enterprise, which the linkage between the message receiver and the sender is clearer than it in BBS.

The most important point in this research is the receiver plays the role of adjustment. When one has the ability (expertness) and willingness (involvement) to make a decision, he or she would give weight to the quality of message itself. That is, like ELM illustrated, when the phenomenon with high elaboration likelihood emerges, the message receiver would choose Central Route to help him make the decision, which is Argument Quality.

There are several literature reviews about Peripheral Route of ELM. In this thesis, we choose Source Credibility as Peripheral Route adopted by the receiver under lower elaboration likelihood. Nonetheless, our statistical result shows that only involvement would adjust the influence of Source Credibility and Acceptance Level of Information; yet, Expertise of the receiver does not have relevant adjustment between them. The dual-process theory divides the method of making a decision into Systematic Route and Instinctive Route (Gilbert, 1999). Peripheral Route in ELM is the Instinctive Route in dual-process theory (Stephanie Watts and Wendy Schneier, 2003). Also, there are many factors that would affect the intuition. Consistency and conformity of remarks in the Internet is one of it (Zhang and Watts, 2003). It shows a critical point that in the Internet, opinion leadership plays a trustworthy source.

Through their communication, this trustworthy intuition might be more direct, which more easily influences the message receiver's intuitive decision.

Our main contribution has three parts. First, from the view of the message receiver, we try to illustrate the process of how the decision-maker handles the information in the persuasion communication. Moreover, based on ELM, we explain every decision-maker has different decision strategy because of different willingness and ability. It shows that our research thinks out of the box, which is what influenced the message receiver's behavior from the sender's viewpoint in the past. Instead, we emphasize more on the process of making a decision. Second, there are several channels in the Internet. Our sample collection provides the basis of cross-platform. Especially, BBS and Blog take most proportion, which are respectively 46.3% and 31.7%. Next is Social Network, which Facebook and Plurk take 18.3%. From the statistical result, it reveals that the platform in the Internet has strong relevance of information and acceptance level of information. And this offers a pretty good marketing meaning, which shows that every platform in the Internet has its own operational influence on marketing word-of-mouth since they possess diverse interactive mode and characteristics. For example, from our working experience in the marketing company, it turns out that most marketing budget would be exercised to the blogger with great influential power because users in the Internet use to refer to the articles with experience that are rich in pictures and sentences from these bloggers. Third, we use Source Credibility as Peripheral Route of making a decision, though the expertness of the receiver does not have relevant adjustment of acceptance level of information, however, compared to the literature review in the past, which usually did not have relevant adjustment in this dimension (C. M. K. Cheung, Lee and Rabjohn, 2008; Stephanie Watts and Wendy Schneier, 2003), ours still proves the theory, i.e., the involvement of the receiver would adjust the effect of information persuasion.

Yet, our research has two limitations. First, traditional or electronic word-of-mouth exist interaction. In the interaction, the environment where the message receiver is in is always changing. So, we can not judge the behavior of information acceptance from recalling single message since the transformation of knowledge itself is a dynamic process (Nonaka, 1994). And, making a decision is a series of process, which is difficult to detect this sequential process by scales in the quantitative research. If we could add time variable, or use experiments, it would get close to the process of making a decision. Second, using Backtracking to inquire the experience of adopting eWOM from the target might gain obscure memory, making the answer not accurate enough.

First, Source Credibility is a key factor in the literature review of eWOM (Breaseale, 2009; C. M. K. Cheung et al., 2008; M.Y. Cheung, Luo, Sia and Chen, 2009; Stephanie Watts and Wendy Schneier, 2003; W. Zhang and Watts, 2008). But, if we need to add the acceptance of eWOM under ELM, we could further narrow the scope, since Source Credibility could be from opinion leadership (such as the most popular blogger), trust of the website (such as Urcome.com, mobile01.com). If we could narrow the scope, or differentiate these concepts, the effect of adjustment would be clearer.

Second, interpersonal factors that affect the acceptance level of eWOM could be further discussed, such as the interpersonal homophily, which is more suitable with the characteristic of Internet.

Third, the female samples take the proportion over 80%. But in reality, female's decision mode is different from the male's. We conduct this sample collection on the ground of convenience because our sample is from the popular board in BBS, which has many female users in origin. And this is a feasible direction for future research. The female always predominate the purchasing decision. If we can induce the critical

factors when they adopt eWOM, its result could offer the marketing sales an excellent reference.

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