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# THE STUDY ON INFLUENCES OF ONLINE REVIEW HELPFULNESS

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## Abstract

*With the surge in the number of the online review, how to get valuable information from a large number of useless information become a new problem that people face with when they shopping online. So far, many scholars have carried on some researches on this problem, but most of the studies were based on tangible goods' online reviews, and studies about services' online reviews are still very few. This research-in-progress aims to apply the ELM (Elaboration Likelihood Model) analysis framework to develop the model of customer review helpfulness from the perspective of cognitive theory. We plan to carry on empirical research on the review data of service from Dianping.com, and test the model presented in this paper according to the theoretical analysis.*

*Keywords: Online review, Review helpfulness, Elaboration likelihood model*

# 1 INTRODUCTION

Online review has become one of the important information for consumers when they shopping online. It determines the consumers' shopping desire at a great extent. Researches in marketing field show that, the spread of online reviews plays an important role in reducing the uncertainty of the consumers' purchase, and helping consumers to make effective purchase decisions (Katz & Paul, 1955; Arndt, 1967; Chevalier & Mayzlin, 2006b). When consumers purchase goods or services online, the information about the goods or services which is provided by the seller has a certain amount of uncertainty. In this case, consumers will search online reviews to reduce their uncertainty and to help themselves to make decisions. The reason is that, relative to the information provided by the seller, the information provided by peers has greater credibility and more help for consumers.

With the surge in the number of the online review, how to get valuable information from a large number of useless information become a new problem that people face with when they shopping online. When consumers face thousands of online reviews, which of those reviews provides the most valuable information for them to make their purchase decisions? How to obtain valuable information from those consumer reviews? For online sellers, how to help consumers to find the information they needed, and shorten the time consumers spend on making their purchase decisions? Ultimately, to discuss the factors that affect the helpfulness of online customer reviews and the mechanism between them will help to solve above problems.

Many scholars have carried on some researches on this problem, and found a series of factors that influence the helpfulness of online review. And some other scholars have done some further study about the information processing mechanism of online review. However, most of these studies were based on the research of tangible goods' online reviews, and studies about the services' online reviews are still very few. At the same time, the existing research results have some controversies on some conclusions, especially on the terms of function mechanism. The theoretical framework of online review helpfulness is still not perfect, the research framework is still not very mature. Therefore, in this paper, from the perspective of cognitive theory, we will utilize the ELM (elaboration likelihood model) analytical framework and reveal the factors that influence the helpfulness of online review, and further discuss the mechanism between them.

## 2 CONTENT AND ASSUMPTIONS

### 2.1 Elaboration Likelihood Model

The dual-process theory in social psychology studied what role did the content of a message and the factors that influence the message credibility played in shaping human cognitive and behavior. These theories play the most important influential role in the field of persuasion and attitude change, and are helpful in interpreting the effective team communication. The elaboration likelihood model (ELM) is one of the two most outstanding theories that using the dual-process theory, and it is put forward by psychologists Petty and Cacioppo. It well explains the internal reaction mechanism of attitude change when people face with the persuasive information. According to the ELM, based on the receiver's ability

and motivation, the information processing is different when the receivers scrutinize the core value of an argument. And this in turn will limit how the influencing process that have already been given influences the shaping and changing of the receiver's attitude. At the same time, the attitude change among individuals is influenced by two “routes”, that are: central route and peripheral route. The differences between them are the comprehensive information processing ability and the personal elaborate processing motivation. The central route requires people to critically think all the related parameter in an informational message before they make a target decision. And the peripheral route does not need people to pay too much effort to deal with the relevant information, and the change of attitude may just be influenced by the peripheral information (such as the reliability of the information source). As shown in Figure 1.

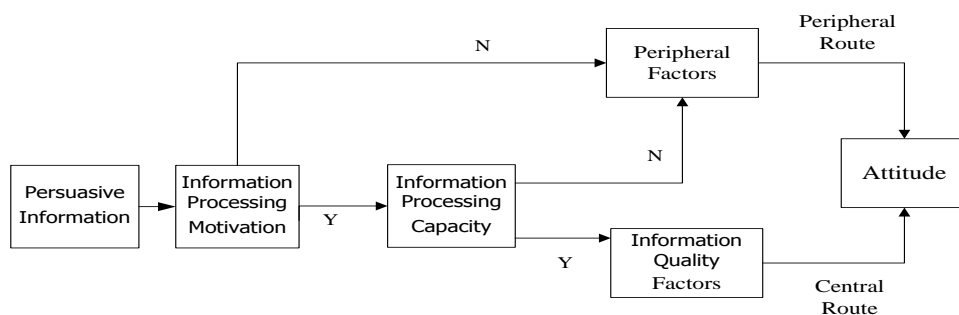


Figure 1. Elaboration likelihood model

According to the ELM, the way that consumer deal with the online reviews is along the central route and the peripheral route. The choice of the route depends on the consumers' information processing motivation and ability. It will be along the central route if they have the motivation and the ability at the same time. Otherwise, it will be along the peripheral route. Thus, the attribute variables of the review could be divided into central factors and peripheral factors.

## 2.2 Central Factors

Central route is the process that requires consumers to systematically process the factors of the quality of the information, and spend time and energy to determine whether to adopt the viewpoints of the information. To the high involvement service, the consumers will read the information provided by the reviews carefully, and the degree of influence of review depth to the perceived usefulness of the review will get higher. On the contrary, to the low involvement service, the consumers will not pay more attention to the review depth, and the degree of influence of the review depth to the perceived usefulness of the review will be very low. At the same time, to the review data on Dianping.com, however, the review information receiver cannot browse the data about the reviewer reputation directly. That means, if the receiver wants to know the reviewer's reputation, they have to click into the reviewer's personal webpage. Therefore, review depth and reviewer reputation are both the central factors that can influence the perceived helpfulness of the online review.

### 2.2.1 *Review Depth*

For the online review belongs to the open communication mode, the depth of the text will influence the consumer's assessment that whether a review is helpful. To the consumers, the deeper the review depth is, the more the related information that it provides to the consumers, and the more advantages for consumers to understand the attribute of the service and consequently make their own decisions. And so this review will be more helpful for the consumers. On the contrary, the shallower the review depth is, the smaller the related information that the consumers can get from it, and this review will be less helpful for the consumers. Studies in recent years have also found that the depth of the online review would influence the helpfulness that the consumers perceived about it (Susan & David, 2010). Chevalier and Mayzlin(2006b) pointed out that the review length (expressed by the number of words in the text) reflected the level that the reviewer involved in and the degree that the reviewer satisfied with this service in their study about the online reviews from Amazon.com. And they believed that other consumers may respond to the review information when they read these reviews. Mudambi and Schuff(2010) found that the depth of the review text had direct relationship with the perceive helpfulness, and the perceive helpfulness about the review will increase along with the increase of the words of the text. However, according to the law of diminishing marginal utility (Gossen's first law), the marginal utility of each unit will decrease along with the increase of this unit. And so, with the increase of the review depth, the marginal utility of each unit about the perceive helpfulness of this review will decrease with the increase of this unit. Based on the previous researches, we believe that the complexity of the review will increase along with the increasing of the content, and the helpfulness of an overly complex review will reduce instead. We put forward the following hypothesis.

*H1: There exists a downward U-shaped relationship between the review depth and consumers' perceived helpfulness of the review.*

### 2.2.2 *Reviewer Reputation*

Reputation is the important attribute to distinguish the different reviewers, and is the powerful guarantee for reviewers to gain other consumer's trust in the online environment. However, posting review is tedious and unpaid. The review released by the reviewers been favourable is one of the reason that satisfy the reviewers' self-identity and inspire them to post the review more positively. Jeppesen and Frederiksen (2006) held that the more favourable the review information of the reviewer is, the harder the reviewer would be to post the review. Bator and Cialdini (2001) thought that the reviewer reputation was the basic influence factor to understand the persuasive information. The conclusions that the consumers are affected by the reviewer reputation are not the same. Some researchers found that the higher the reviewer's reputation, the easier the information receiver would obey the conclusion of that review (Gu éguen & Jacob, 2002). At the same time, some other researchers got different conclusions, they believed that relative to the traditional information dissemination behavior, the reviewer reputation made lesser difference to the information receiver in online information dissemination behavior (Dubrovsky et al., 1991). According to the previous conclusions, we put forward the following hypothesis.

*H2: The reviewer reputation has a positive effect on consumers' perceived helpfulness of the review.*

## 2.3 Peripheral Factors

Peripheral route is the process that don't need consumers to spend too much energy in information processing, and it only need consumers to conduct the heuristic processing and then make the decision that whether to adopt the conclusion of the review or not. According to previous researches, review valence and reviewer credibility have those characteristics, and so they are both peripheral factors.

### 2.3.1 Review Valence

In the online review, there often has an attribution namely the valence. This valence is provided by the reviewer about their overall attitude about the service. "1" is on behalf of the extreme negative evaluation about the service, and on the contrary, "5" is on behalf of the extreme positive evaluation. Review valence combined with the review text can provide more helpful information for consumers. A large number of relevant researches show that, for consumers, the size of the valence significantly influence the perceive helpfulness of the review. But they have different conclusions on it. For some researchers, they think that, for those consumers who have already made their decisions, the positive valence can provide more confidence for them, and so this kind of reviews is more likely to influence the consumer's decision (Chevalier & Mayzlin, 2006b). But other researchers believe that, for the consumers who have a neutral attitude, the influence that negative valence make will be more prominent than positive valence, and can more likely to affect the consumer's decision (Ba & Pavlou, 2002). In recent years, as the online customer reviews has been more and more valued by consumers, lots of consumers began to pay attention to the problem that whether the review information show the attributions about the goods or services (Krishnan & Hartline, 2001). And further more researchers begin to think that the review with proper valence would be perceived more helpful for consumers, because it can provide both the positive and negative evaluation of the product or service (Racherla & Friske, 2012). Thus, we put forward the following hypothesis.

*H3: There exists a downward U-shaped relationship between the review valence and consumers' perceived helpfulness of the review.*

### 2.3.2 Reviewer Credibility

Previous researches have shown that the source of the information played a significant impact on the process that the information receiver adopt the information. Guo and others (2010) believed that reviewer credibility positively influence the perceived helpfulness of the online review, the higher the reviewer credibility, the higher the consumer's perceived helpfulness of the review. In online environment, the higher the reviewer's grade, the more positive when he participate in community discussions, and the larger the appeal of him in the community, and the review be posted will provide more support for other customers and receive more attentions from others. It is more obvious in the low involvement services, and so we put forward the following hypothesis.

*H4: The reviewer credibility has a positive effect on consumers' perceived helpfulness of the review.*

## 2.4 Moderator: Service Involvement

According to the ELM theory, Petty and Cacioppo (1986) held that, in the process of information processing, what kind of information processing (systematical or heuristic processing) do the consumers

choose depending on the level that the consumers involved in. High involvement service is the service that has strong correlation with consumers. To these services, when consumers make their purchase decisions, they will pay more energy, do some systematic processes on the information about these services, estimate these services combined with their existing knowledge and experience, and then form their own attitude about these services. In this case, to the consumers, the process of the information processing is central route, and the central factors play an important role in this process. On the contrary, to low involvement services, the energy that the consumers pay is smaller, they can form their own attitude only relying on the peripheral attributes in the online reviews. In this case, the peripheral factors play an important role in the process of information processing.

Based on relative literatures, we found that, for the services with higher price, people will process the information more carefully, and the central factors will be more important. And for the services with lower price, the attention people paid will reduce, and the illuminating peripheral factors will be more important. Thus, we regard the consumption per person as the proxy of the level of the service's involvement, and put forward the following hypotheses.

*H5a: Service involvement has a positive moderating on the association between the review depth and the perceived helpfulness.*

*H5b: Service involvement has a positive moderating on the association between the reviewer reputation and the perceived helpfulness.*

*H5c: Service involvement has a negative moderating on the association between the review valence and the perceived helpfulness.*

*H5d: Service involvement has a negative moderating on the association between the reviewer credibility and the perceived helpfulness.*

Based on the above hypotheses, we provide the model about the influential factors of the perceived helpfulness of online review (see Figure 2).

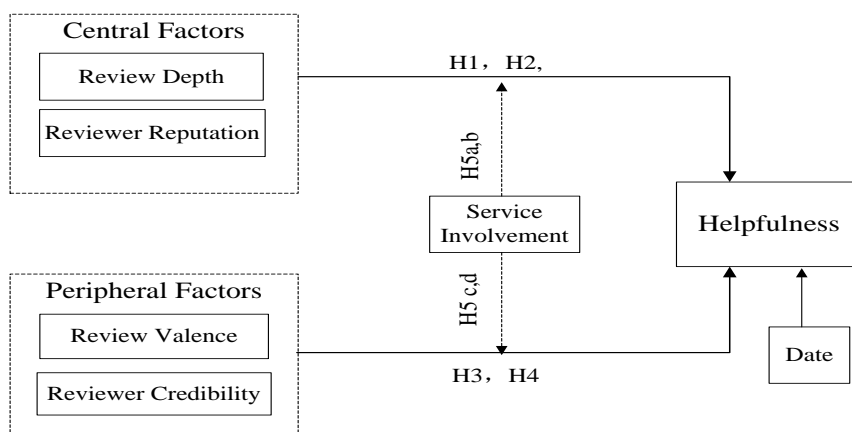


Figure2. Model of customer review helpfulness

### 3 METHODOLOGY

This section presents our further research plan. Combined with the review information on Dianping.com and the variable settings of previous studies, we plan to regard the number of voting that the review has represent as the perceived usefulness of the review, regard the number of words in the text which is released by the reviewer as review depth, regard the total number of the flowers that the reviewer gained as reviewer reputation, regard the valence given by the reviewer for a related service (divided into 1-5 grades) as review valence, regard the medal number of the reviewer as reviewer credibility. Chen and others (2008) found that the presentation sequence of the information has significant influence on the consumer's behavior. The perceived helpfulness of a review which is posted for a long time is likely to be different with that of a review which is published for a short time. Therefore, we will regard the date (the number of days from the release date to collect date) as the control variable. Based on the model above, an empirical research will be carried on the review data of service on Dianping.com. The hierarchical regression analysis will be applied with SPSS17.0 to test the hypotheses presented in this paper according to the theoretical analysis.

### 4 DISCUSSION

In this paper, from the perspective of cognitive theory, we utilized the ELM (elaboration likelihood model) analytical framework and revealed the factors that influence the helpfulness of online review, and further discussed the mechanism between them.

If this research-in-progress is implemented properly, it has the potential to lead to the following theoretical and practical implications. Theoretically, this research may proliferate the ELM theory in the study of the factors that influence the perceived helpfulness of online review, and elaborate the study on the issues of online services' review, expand the applicative scope of the related theory in the social psychology, and enrich the research category in the field of online customer reviews.

Practically, to the merchants who provide those services and the third-party consumer review websites like Dianping.com, this research will provide vital guidelines in the terms of how to deal with the problems of the online reviews for them.

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