

A Relationship between Online Visual Message and Consumers' Purchase Intention

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Abstract: With the rapid development of e-commerce industry, a term called electronic word of mouth becomes popular to help marketers gaining more sales via online shopping stores. The objective of this paper is to conduct a quantitative research and analyze the influence of online visual message to consumers' purchase intention. Data were collected from Taobao, and a regression model was established based on the model of communication process to investigate the correlation between the number of visual message and sales among two kinds of product—search and experience. The study found that there is a positive relationship between the two variables investigated for “experience” products, whereas a negative relationship exists for “search” ones.

1. Introduction

1.1 Electronic Word of Mouth

In the marketing communication fields, word-of-mouth (WOM) has always been perceived as one of the most important tools in affecting consumers' purchasing processes^[1, 2], WOM can be defined as interpersonal communications regarding specific products or brands between individuals who have non-commercial intentions.

After Internet emerged in the early 2000, WOM is not only affective in offline version, electronic WOM (e-WOM) but also appeared in e-commerce field^[3]. E-WOM occurs when people give or explore product-related recommendations through various networking sites, such as Amazon, eBAY, Taobao^[4]. The following are some distinct features of e-WOM concluded by existing studies. First, message from E-WOM can remain for a period instead of disappearing as soon as it is spoken^[5]. Second, the message spread out quickly due to the publicity and online information transformation. Third, e-WOM is easier to measure than traditional WOM due to the big data and programming technology^[6].

For the recent studies, scholars have mainly investigated e-WOM on different genres of platforms and social media platforms. According to Kaplan and Haenlein^[7], social media are Internet-based platforms that allow interactions for user-generated contents. Some of scholars classify products, which are bought online into two categories: search goods and experience goods, which defined by the products' original characteristics^[8]. In details, the quality of search goods can be observed before

buying the product, while the quality of experience goods should be determined after consumers consume or experience the product ^[8]. Some other studies explain that different characteristics of message may also have an impact for e-WOM based on the concept of mental imagery ^[9]. Some scholars separate online message into two parts: non-visual message and visual message ^[10]. In the context of e-WOM communication process, visual message posts online may be more credible than non-visual message ^[10].

1.2 Model of Communication Process

E-WOM process is defined as “a face to face communication between consumers about a product or services experience”, so it can be perceived as a two-way communication process based on the Personal Communication Process ^[11]. A previous literature on Internet experiences affecting eWOM perception applied communication process model to categorize its influential factors ^[12]. Shannon's model of the communication process is a major breakthrough towards communication ^[13]. This model can be used in lots of diverse disciplines, such as journalism, media, education.

As figure 1 shows, by applying the communication process, the whole period of electronic word of mouth is conducted between three parties: sender, channel and receiver ^[11]. To be more specific, senders refers to the consumers who bought the products before and sent their comments online; receivers are groups of potential consumers who see the comments and determine whether they will buy the product; channel refers to the online platform where the comments and reviews post. Referring to López and Sicilia, they fit WOM and eWOM process into the main process of the model of communication process, which is message sent from sender to receiver through a channel ^[12]. In details, eWOM model in figure 1 represents the source comes from a sender (previous consumers) and then sends through the Internet to receiver.

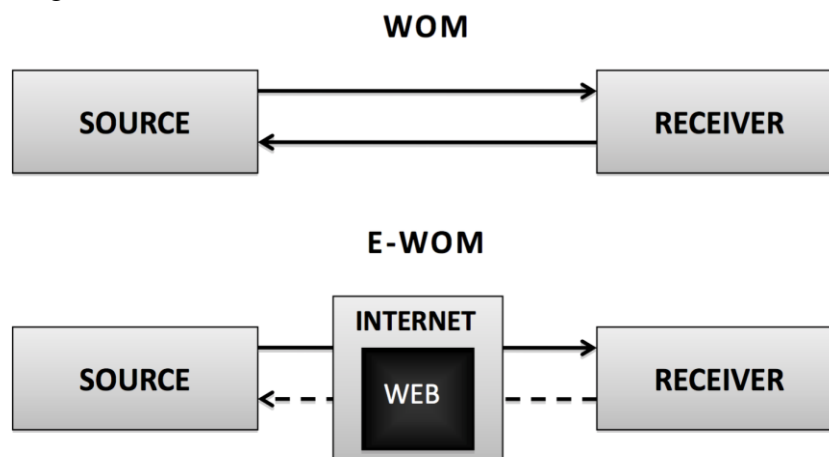


Figure 1: WOM vs. e-WOM Source: Adapted from López and Sicilia

Therefore, to be more valid and systematic, this study applied the model of communication process to analyze the influence of visual message to consumers’ online purchase intention ^[11].

1.3 Meaning and Purpose

According to Stephanie and Wendy, since the public has willingly accepted e-WOM as online sharing tool, e-WOM has greatly influenced consumer purchase and communication behavior, which led to considerable sale changes in marketing ^[14]. Thus, plenty of researchers pay more attention to e-WOM and analyze some specific e-commerce platforms, such as Amazon based on American business culture. Apart from that, the booming of e-commerce made e-WOM a more vital role around

the value chain of Internet shopping in China^[15]. However, less researchers are conducted based on Chinese business culture. Some differences must be occurred by applying the largest Chinese e-commerce platform—Taobao to study the influential factors of e-WOM rather than Amazon or eBAY^[16]. Meanwhile, for analyzing consumers' purchase intention, most of scholars choose the method of survey by applying the Theory of Planned Behavior(TPB) or Technology Acceptance Model(TAM), which lacks of more diversity research method to provide a different way of thinking for e-WOM^[17,18].

In summation, the objective of this paper is to conduct a quantitative research and analyze the influence of online visual message to consumers' purchase intention. It is in response to the lack of holistic and systematic analyze for e-WOM process. The commercial background of this paper is in the Chinese business culture. It is repeated that this study will add to the backdrop of e-WOM research in a more diversity business context and the insights generated in this research can offer guidance to latter scholars who are intended to do further exploration in this domain.

2 Data and Methodology

2.1 Data source

A major goal of this paper is to explore the influence of online visual message to consumers' purchase intention. Meanwhile, previous studies in marketing have distinguished products into two categories: search goods and experience goods with different consumer behaviors^[8]. The quality of search goods can be observed before buying the products, while the quality of experience goods mostly can be determined after using it. Due to the e-WOM background and the goal of the study, research data are collected from e-commerce platform—Taobao.com, which is the largest e-commerce platform in China, for analyzing Chinese e-commerce background and diversifying the research field of e-WOM. Therefore, products that are selected to study should be distinguished clearly into two forms. To satisfy these requests, books and printer ink are chosen to represent experience goods and search goods respectively, based on previous study's suggestion^[8]. The book which was chose for study is the Chinese version of Notre Dame de Paris and the printer ink is HP 808. Each product is collected 132 and 87 online stores respectively on 17th May, 2018.

2.2 Model and variable selection

For analyzing how the visual message can influence consumers' purchase intention, a linear regression model is used to define the correlation between the number of visual message and consumers' purchase intention. The linear regression equation can be generated as follows:

$$S=\alpha NP+\beta NR+\gamma BR+\delta GR+\varepsilon A+\epsilon PC+\theta NI+\epsilon i \quad (1)$$

Consumers' purchase intention can be showed by the number of sales per month(S). For analyzing the visual message on Taobao.com in a more systematic way, the model of communication process was applied^[12]. The number of pictures in the consumers' review section of the online store is independent variable representing the number of visual message(NP). The study hypothesize that there is a relationship between the number of visual message and consumers' purchase intention. Towards that end, three categories variables are collected based on the model of communication process: source, platform and receiver^[8]. In each type of variables can serve as a proxy for evaluation consumers' purchase intention. Table 1 lists the different variables that were collected. For the source category form the model, number of reviews, rate of bad reviews, rate of good reviews and number of adding are control variables. TMALL is another online shopping channel belongs to Taobao.com and has more credibility than Tabao.com. Thus, for the channel category, platform category is the

proxy by differentiating whether the online store is registered on Taobao.com or TMALL. Receiver's influence can be calculated by the number of asking from potential consumers on interactive section of Taobao.com.

Table 1: Variables collected from the study

Type	Variable	Explanation
Source	Number of pictures(NP)	Total number of reviews posted pictures
	Numbers of reviews(NR)	Total number of reviews posted for the product
	Bad reviews(BR)	Rate of good reviews for the product
	Good reviews(GR)	Rate of good reviews for the product
	Numbers of adding(A)	Total number of reviews which were added reviews again
Platform	Platform category(PC)	Two types of platform adjusted by the level of credibility of consumers
Receiver	Number of interactive message(NI)	Total number of asks posted by potential consumers

3 Result

For experience goods category, the linear regression model was formed with enter selection function, which was used in the multiple regression model analysis. For the dependent variables: sales per month of experience goods, experience goods' online selling performance was significantly positive related to the number of pictures under the reviews section of online stores ($\beta = 1.887$, $p < 0.001$), and numbers of followers ($\beta = -.255$, $p < 0.01$), numbers of interactions ($\beta = 0.738$, $p < 0.05$), numbers of adding posts ($\beta = -3.446$, $p < 0.001$) and numbers of reviews ($\beta = 1.383$, $p < 0.001$), but the rate of bad reviews were unrelated (see Table 2).

For search goods category, there is a linear regression equation was generated. Enter selection function was used in the multiple regression model analysis. For the dependent variables: sales per month of search goods, searching goods' online selling performance was significantly positive related to the number of pictures under the reviews section of online stores ($\beta = -1.149$, $p < 0.001$), and numbers of reviews ($\beta = 6.011$, $p < 0.001$), but the rate of bad reviews, numbers of followers, numbers of interactions, numbers of adding posts and were unrelated (see Table 3).

Table 2: Multiple Regression Results for Books.

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	34.921	15.201		2.297	0.024
Numbers_Pictures	4.099	0.906	1.887	4.526	<0.001
Numbers_Followers	-4.179E-5	<0.001	-0.255	-2.680	0.090
Numbers_Interactive	11.882	4.772	0.738	2.490	0.150
Numbers_Adding	-32.357	4.808	-3.446	-6.730	<0.001
Rate_BadReviews	4707.505	3386.111	0.113	1.390	0.169
Numbers_Reviews	0.196	0.047	1.383	4.221	<0.001

a. Dependent Variable: Sales_month

Table 3: Multiple Regression Results for HP 808

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-174.024	157.588		-1.104	0.279
Numbers_Pictures	-9.983	4.559	-1.149	-2.190	0.037
Numbers_Followers	6.506E-6	<0.001	0.016	0.191	0.850
Numbers_Interactive	8.553	13.706	0.087	0.624	0.537
Numbers_Adding	4.892	3.282	0.605	1.491	0.147
Platform	201.480	105.452	0.152	1.911	0.066
Numbers_Reviews	0.367	0.061	1.345	6.011	<0.001
Rate_BadReviews	4408.928	16357.524	0.023	0.270	0.789

a. Dependent Variable: Sales_month

4 Conclusion

This study investigated the effects of online visual message based on consumers' e-commerce shopping experiences on the attributes of e-WOM communication. In addition, mined data from Taobao and separated products into two categories—experience and search, a regression model analysis was conducted by applying the Communication Model. Results of the model indicates that visual message has a significant impact to consumers purchase intention in terms of different categories of the selling product. For buying experience products, the more visual message on the reviews section, the more purchasing behaviors which consumers will have. However, when consumers buy some search products, the relationship between visual message and sales is inversely proportional, which means the more visual message on the review sections, the less purchasing behaviors. Besides, the study also can link with another study investigate the level of consumer's involvement toward different type of products based on the elaboration likelihood model theory, which emphasizes the types of products can influence consumers' attitude toward their reviews^[10]. This study focus on a whole overview process of e-WOM, applying the communication model to separate the whole communication process on the e-commerce platform into three parts: receiver, platform and sender. Meanwhile, there are also another directions and method to study e-WOM, for instance, applying Cross-Cultural Perspective and information processing theory differs that how product preferences and cultural tastes influence consumers purchase intention^[19]. By applying the communication model, three parts of variables are tested and an e-WOM model are established. In addition to the number of pictures, other control variables also have a significant influence with the number of sales. To be more specific, numbers of reviews, followers, adding and interactions can also impact consumers purchase intention. However, due to collinearity issue, there is a control variable, rate of bad reviews, which does not confirm the recognition of the research. There is no meaning that more bad reviews can have more sales.

Having knowledge of the correlations between these main variable on reviews can make a help for some online stores owners and some marketing managers. These results suggest that online store owners should differentiate their marketing strategies based on the different types of products^[10]. Managers can have a more precise direction to optimize their e-commerce business to gain more positive reviews form consumers and more profits.

Although this paper separate products into two categories rationally, the future study may find some other methods to analyze and compare with this method to find some more valuable phenomena. In other words, the product function on e-commerce platform may change very quickly, thus it would be interesting to see how the changes of product function on the platform influence consumers purchase intention. Finally, to increase the generalizability of this study's results, future study must have a wider range of samples to represent consumers.

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