Research on Influence Mechanism of e-WOM on Purchase of Followers in Virtual Community

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Abstract. With more abundant forms of e-WOM, the virtual community provides consumers with an important site to share the personal comprehension on products and exchange the user experience. Electronic commerce blending into social communication has been a new direction for the development of electronic commerce. In social network perspective this paper analyzes the influence of the three related indicators upon the follower purchase, viz. the feature of e-WOM releaser, the interaction of e-WOM diffusion and the factor of commodity, and builds an influence factor model which is tested empirically by taking koubei.jumei.com as an example. The result of Logit regression demonstrates that there is a positive influence of the frequency of releaser's being followed, the total amount of released e-WOM, the number of times of e-WOM being read over follower purchase; while the influence of the frequency of releaser's following, and the quantity of replies of e-WOM and usefulness on follower purchase is not significant. These conclusions have some directive role in building the virtual community of electronic commerce and provide a new idea for the further study of the direct influence of e-WOM upon purchase behavior.

Keywords: e-WOM · Purchase behavior · Virtual community · Logit regression · Follower

1 Introduction

WOM is an important stimulus that influences purchase decision. In contrast with offline WOM, the e-WOM plays an important role within the purchase process for its even wider diffusive range and even higher diffusive speed [1]. The influence of e-WOM on consumer was first reflected in the consumer review system. In 1995, America's Amazon began to provide consumers with a function on its electronic commerce website to publish their comments about their purchased commodities, which gave a great impetus to its growth in business. And now China's electronic commerce trading platforms such as Taobao, JD, Dangdang have set up their online evaluation system for consumers to publish their comments on commodities, so it is very common for consumers to collect

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the online review information before purchasing. In recent years, many third-part websites or electronic commerce websites have opened special virtual communities such as douban.com, dianping.com, koubei.jumei.com and so on. These experiential communication platforms provide consumers with a better site to share the purchase experience and exchange the use comprehension. The better interaction of virtual community has been an important platform on which consumers participate in value co-creation, which imperceptibly improves the additional value and influences consumer's purchase decision more strongly [2].

There is a great number of achievements in researching the influence of e-WOM on consumption behavior [3]. Lee et al. induced the research of e-WOM influence on two levels, viz. the market level research and individual level research [4]. From the aggregation perspective the research conclusions of the marker level research demonstrate that there is a significant correlativity between e-WOM and sale volume [5]. The individual level research probes into the influence of e-WOM on confidence, purchase intention and usefulness through the approach of questionnaire, and the resultant conclusion will be drawn that WOM facilitates decision on purchase and acceptance of information [6]. However, facing a great quantity of purchase data accumulated and provided by virtual community, can the relation of WOM and follower purchase behavior be directly discussed on the individual level in order that the degree of that WOM or the releaser of WOM influences the follower of WOM? This is a question which is lack of attention and worth paying attention to.

With the increasing and enriching of socialized function of third-part review website and electronic commerce, such situations as the network relationship between e-WOM releaser and e-WOM follower, commodity purchase, e-WOM releasing, likelihood of follower purchase and so on can be observed from the social network perspective of virtual community. Therefore, considering the consumer who follows a certain e-WOM releaser, if some of his purchase behaviors are observed after an e-WOM having been released, we can affirm that the follower purchase after a release of e-WOM is mainly owes to the e-WOM released by the corresponding releaser, although we cannot affirm it is the direct result of the very influence of e-WOM. Meanwhile, the unique data structure of e-WOM release and follower purchase from koubei.jumei.com provides a likelihood for the further research in the individual perspective. Therefore, this paper will build a research model on the influence of e-WOM of virtual community on follower purchase and empirically analyze it with the data got from koubei.jumei.com, and then verify the related hypothesis.

The paper is organized as follows. Section 2 puts forward the hypothesis and establishes the influencing factor model of e-WOM on the purchase of followers in virtual community. Section 3 describes the empirical data and research method. Section 4 gives empirical result. Section 5 concludes and gives some management implications as well as limited aspects.

2 Model Building

In general, the individual level research on e-WOM takes purchase intention or usefulness of e-WOM as dependent variable [4, 7], or takes usefulness of e-WOM and reliability

of e-WOM as intermediate variable at the same time takes the acceptance of e-WOM as final dependent variable [8]. However, neither of the two approaches can get the actual purchase result. Therefore, purchase intention directly correlates with actual purchase and usefulness of e-WOM leads acceptance of e-WOM, and an actual purchase is attained in the end, but we only in an aggregation perspective observe the overall situation of purchase. Actually, the aggregated thing is the aggregation of individuals. Generally saying, the relation of sale volume and e-WOM necessarily stems from the stimulus of e-WOM to every individual, however, the influence of e-WOM on consumer behavior is only an aspect of it and the degree of influence of itself is not to be lumped together. The key of direct research on the relation between e-WOM and purchase on individual level lies in how empirically prove the relation between e-WOM and purchase behavior combining with the concrete factors that e-WOM influences purchase decision.

The analysis of consumer's WOM release behavior is as follows. After logging in the virtual community, the consumer buys commodity and forms experience about using of these commodities. Because of reading the released e-WOM, the members of the community follow these commodities because of their interests or identifications, as a result, they become followers, viz. "fans" so called on website commonly. Then these followers (fans) read e-WOM, communicate, interact, browse commodities, and buy commodities for being influenced by the releaser of this e-WOM, and maybe release new e-WOM after their buying and experiencing these commodities. The corresponding data records which shown as Fig. 1 should be generated in all these concrete procedures. If we call this purchase behavior of the corresponding fans (viz. followers of the certain e-WOM releasers) as "follower purchase" which indicates that the follower has bought the commodity described by the corresponding e-WOM. Then, through all the process of paying attention to WOM release, reading e-WOM and browsing commodities we can see the influence of the active states of e-WOM releasers, replies after browsing the current e-WOM and the concrete condition of corresponding commodities on follower's purchase.

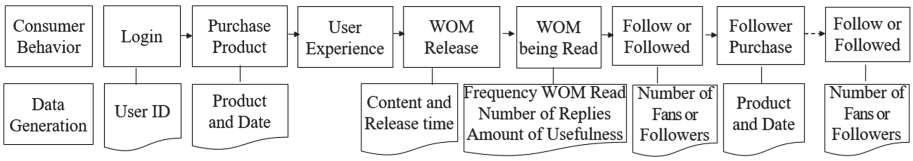

Fig. 1. e-WOM release, following process and data generation in virtual community.

2.1 The Influence of WOM Releaser

As an information disseminator the e-WOM releaser influences the convincing force of e-WOM by the identity openness, specialization and reputation of itself. In recent years, with the development of trade-type virtual community, the research on opinion leader and the feature of e-WOM releaser in the network structure perspective has attracted much attention in every possible way.

(1) Social identity theory and network formation
The social identity theory holds that every individual makes social classification according to the similarity of interest, background and value, shows more positive attitude to the group and active communication with each other, and displays stronger confidence to the members within the group. As a result, he is more apt to accept the opinions of other members within. After being put forward this theory gradually gets recognition in several fields just like marketing [9]. More and more researchers have understood that the factors such as group classification, value and reputation promote the social identity of individual [10]. Xiong et al. deems that the leader of opinion accumulates the social interactive relation through different ways such as self-identity, knowledge contribution and reciprocation and so on, meanwhile, the knowledge contribution and reciprocation have intermediary function on the status of opinion leadership and social interactive relation [11]. The formation of social network structure of trade-type virtual community produces following and being followed behavior.

(2) Social network theory and the influence of e-WOM
Liang thinks Node centrality (out-degree) analysis can be applied to identify the users with high degree of active [12]. The researchers like Cao et al. focus on member's special position in network and analyze the different contribution of different position to virtual community [13]. Yang et al. points out that the opinion leadership in community can influence widely the others' consumer attitude, belief and behavior, and bring purchase influence on majority of members [14].

By the above content it can be understood that with the social intercourse blending into electronic commerce and social identity being promoted, the influence of the features of network structure over e-WOM releaser should be paid attention to. The e-WOM releaser's network features are in-degree and out-degree, and herein the in-degree means the frequency of being followed and the out-degree means the frequency of following. "Following and being followed" are the major method of reflecting identification and interactive exchange and client's interaction helps the realization of practical value, enjoyment value and client's property, finally, they influence client's loyalty and promote the purchase behavior.

Specifically, on the one hand, the higher the number of e-WOM releaser's being followed is, the wider the range of the diffusion of corresponding commodity knowledge and user experience also is among the numerous followers there are some followers being purchase behaviors and the likelihood necessarily becomes bigger. Researchers as Susarla et al. deems that social network has important influence on the dissemination and diffusion of e-WOM [15]. The more chains are followed, the rapider the videos disseminate and the more possible the positive evaluation may be gotten. Therefore, we put forward the hypothesis below.

Hypothesis 1: there is a positive correlation between the frequency of e-WOM releaser's being followed and follower purchase.

On the other hand, if the follower who acts as the member of virtual community can effectively identify his membership and establish a good relationship of membership in community his sense of belonging to community can be enhanced and a positive attitude to community can be improved directly. Therefore, if follower can draw more attention from e-WOM releaser, he will establish further the belief of virtual role of himself [16]

and reinforce the trust in the e-WOM releaser. This belief and trust will improve mutual understanding and social identity [17]. The bigger the number of e-WOM releaser's following is, the more followers this kind of trust and belief are transmitted to, consequently, there may be more followers who make purchase. So, we put forward the hypothesis as below.

Hypothesis 2: there is a positive correlation between the frequency of words-of mouth releaser's following (out-degree) and follower purchase.

In addition, the quantity of e-WOM released by releaser is a major factor of its own influence. Obviously, if there are more e-WOM, the more potential to attract consumer visits and increase the time spent online [18], the influence of dissemination will become stronger, so this condition must promote follower purchase. We put forward the study hypothesis as below.

Hypothesis 3: there is a positive correlation between the amount of e-WOM released by e-WOM releaser and follower purchase.

2.2 The Influence of Current e-WOM

The central path of the elaboration likelihood model demonstrates clearly that the information acceptor analyzes and identifies the accepted information seriously, carefully and as systematically as possible, and after meditating he attains the understanding on the accepted information and forms his own self-view, furthermore, this condition leads to an attitude change. To evaluate e-WOM being read, replies to e-WOM and possibility of usefulness is the expression of the concrete behavior in the process of accepting information, so, the number of reviews being read, the number of replies and the quantity of usefulness can directly measure the response degree of WOM readers.

Schlosser supposed 98% of online shoppers read reviews before making purchases [19]. Many studies discussed the influence of text-based WOM [20, 21], Zhang et al. proposed that consumers read multimedia expression of WOM that is a mixture of words, photos, videos, and audio before purchasing [22]. So, the frequency of WOM being read is key to purchase.

When text-based WOM or multimedia WOM have been shared by the WOM releaser, it is incessantly read by online consumers, especially the frequency of being read accumulated to a certain number, it can spur more consumers on to browse, and then it may influence browsers' purchase decisions. For that reason, we put forward the hypothesis below.

Hypothesis 4: there is a positive correlation between the frequency of e-WOM being read and follower purchase.

Moreover, if some browsers make replies on e-WOM it shows that there is core information drawing the browsers' attention and the e-WOM in itself is readable. Beside "following and being followed", the reply to the opinion on e-WOM is another major way to inform identification and interactive exchange. Interaction is an important action and content of virtual community. Among the members the interaction reduces the uncertainty of consumer's attitude to commodities and then produces a positive influence over purchase behavior [23]. Brodie and other researchers hold that the process of consumer's participation includes a series of subsystems and through interaction consumers in virtual community experience co-creation of value [24], what is more, the consumers express

higher client's loyalty, satisfaction, trust and commitment. From the above it can be found that the number of replies to WOM in virtual community is a kind of approval for the information of WOM and reflects the direct data of community numbers interactive behavior as well. The discussion about commodity and interaction may make commodity to draw more attention, also, it is more possible to promote more purchase. So, we put forward the hypothesis below.

Hypothesis 5: there is a positive correlation between the number of replies and follower purchase.

In addition, having put forward a model of acceptance of information based on situation of online information communication and analyzed the concept of "usefulness of information", Sussma and Siegal found that there are two direct factors that information acceptor feels information usefulness such as the reliance of information resource and the quality of information [25], so they held that the information usefulness directly influences information acceptance. Mudambi and Schuff explicitly put forward the theoretical construct of usefulness of online review which was defined as a feeling value in the consumer's decisive process [18], they also pointed out all the online review extremity, review depth, and product type could influence the perception of the usefulness of review. The higher the usefulness of online review is, the better the convincing effect on information acceptors will be [26], in consequence, the usefulness of online review has more significant influence on purchase decision, so we bring forward the hypothesis as below.

Hypothesis 6: there is a positive correlation between the amount of helpfulness of e-WOM and follower purchase.

Besides, considering the influence of commodity itself on purchase behavior, the number of reviews, review valence and commodity price have significant influence on purchase behavior [5, 27]. This research takes the three variables which come from the overall commodity condition as control variables.

2.3 Influence Factor Model

Based on the above hypotheses and analysis, we principally research the influence of the indicators of social network features, e-WOM being read, replies and helpful reviews on the e-WOM follower purchase. For this research we put forward the influence factor model shown as Fig. 2.

The dependent variable is follower purchase, the independent variables consist three types, those are e-WOM releaser, current e-WOM, and Current product factors. Specifically, e-WOM releaser factors are e-WOM releaser In-degree, e-WOM releaser Out-degree and the amount. The influence of current e-WOM factor comes from frequency WOM read, number of replies and amount of usefulness. The current product factors have the number of reviews, review valence and commodity price.

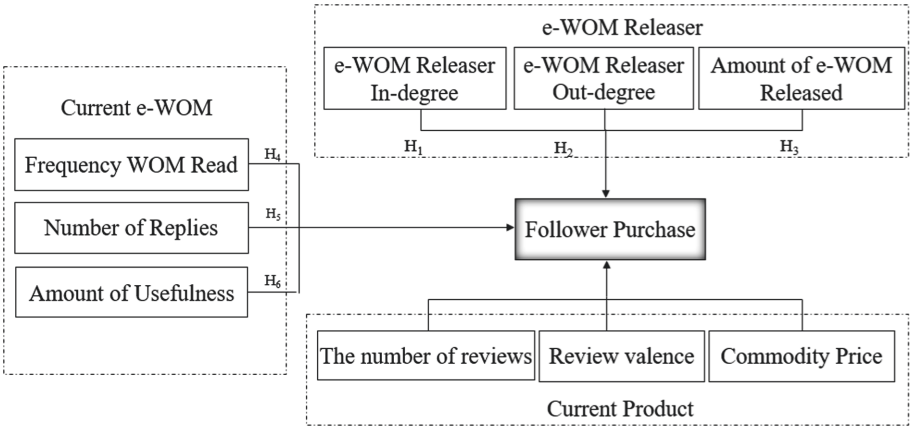

Fig. 2. Model of influencing factors of e-WOM on follower purchase in virtual communities

3 The Research Method

3.1 The Empirical Data

This research takes the data from jumei.com website to do empirical research. The main reason has three aspects: the first is the representativeness of data. Jumei.com is the first website of China's cosmetic industry. Its self-built center of e-WOM, koubei.jumei.com, has worked from 2011. In the several years, the characteristic virtual community named "jumei WOM" has achieved a better effect of propagating brands and products. The second is richness. The website of koubei.jumei.com provides its community numbers with technical support for satisfaction of their demands. We can see the content of rich data such as name of e-WOM releaser (wise person), products, purchase date, content of e-WOM, date of e-WOM release, number of follows(fans), frequency of being followed, frequency of reading, number of replies, usefulness etc. on the page of its website. We also can achieve tracking link and obtain more related records of all the fans of e-WOM releaser. The third is availability of data. If you access koubei.jumei.com, according to the identification of corresponding ID address, by composing program you can get the data of fans and wise person, which provide possibility for analyzing follower purchase behavior.

These empirical data are taking through Web Crawler. First, we randomly select 10 fans as initial entrances from about 200 wise persons, and through snowballing method we can get 1931 clients' IDs from which we randomly select 300 ID entrances. We download "client name, number of fans, frequency of following, commodity ID of e-WOM, frequency of e-WOM being browsed, number of replies, usefulness, date of release, fans' IDs and fans' "names of purchased products, price, and purchase date". Then we delete the incomplete records (such as the incomplete product information) and the clients who have duplicate fans. Finally, we get 280 first level clients whom are called wise persons. The records amount to 18298. All the fans of corresponding wise person make up the second level clients. Download date is March 2016. The final data begin with May 1, 2011 and end up February 29, 2016.

In order to observe the influence of social structure of e-WOM releasers, we cut off the records which frequency of following is less 10. For avoiding such factors as the influence of short-term promotion policy, we cut of the records marked "sold up" to make commodity more popular, price more available and relative stable. In order to avoid the influence of some WOM releasers whose many e-WOM are same, we just keep the records of the top 5 WOM (keep all those are less 5 records). Finally, we get 834 pieces information of e-WOM from 249 releaser, which involves 357818 followers (fans) including 85518 followers having purchase behavior in the proportion of 23.9%. The followers purchase records amount to 5413916.

3.2 Research Variable

Shown as Table 1, this research model includes a dependent variable and 9 independent variables. The dependent variable *Buy* shows if follower purchase or not, which is a 0–1 variable, namely "if followers purchased the commodities described by the corresponding e-WOM." It reflects if the followers whom an e-WOM releaser (wise person) belong to purchase the very commodity after the date when the e-WOM was released.

Table 1. Model variables and description

Name	Meaning	Description
Indegree	Frequency of e-WOM releaser being followed	Number of community members followed the e-WOM releaser, that is "number of fans"
Outdegree	Frequency of e-WOM releaser following	Number of community members being followed by the releaser of e-WOM
A'WOMs	Amount of released e-WOM	Amount of released e-WOM about the purchased commodities himself
Read	Frequency of e-WOM being read	Number of times of reading a certain e-WOM
Reply	Number of replies to e-WOM	Number of corresponding replies to a certain e-WOM
Useful	Amount of usefulness	Amount of a certain e-WOM being evaluated as usefulness
P'WOMs	Amount of commodity e-WOM	Total amount of released e-WOM on a certain commodity
Star	Score or star of a certain commodity	Number of scores or grades of a certain commodity
Price	Commodity price	Current price of the corresponding commodity
Buy	Follower purchase	If followers purchased the commodity described by the corresponding WOM

Considering independent variable, *Indegree* is called inside centripetal as well, which means the number of virtual community members who follow WOM releaser. *Outdegree* is called outside centripetal too, which means the number of virtual community members who followed by WOM releasers. *A'WOMs* means the total amount of e-WOM which are released by the e-WOM releasers after they experienced the concrete purchased commodities. The three variables are mainly used to measure the influence of e-WOM on follower purchase.

Except the network structure of virtual community, the other major feature of virtual community is WOM interaction. *Reply* means the replies made to the certain e-WOM. *Useful* means the accumulated amount of the corresponding e-WOM. Otherwise, *Read* means the number of times of the current e-WOM being read.

Lastly, *P'WOMs* means the total amount of e-WOM that is produced by the current commodity. *Star* means the overall evaluation of commodity which perfect score is 5 (5 stars). *Price* means the actual price of commodity.

3.3 Building Model

We take *Buy* as dependent variable of the model, which is virtual variable. $Buy = 1$ represents there are followers who made purchase. $Buy = 0$ represents there are not followers who made purchase. All the dependent variables are continuous variables. We process data with the form of logarithmic conversion. Mainly, through using logarithmic conversion to convert the nonlinear relation among latent variables to a linear relation, the results of regression will be more stable. And more, after logarithmic conversion, the discrepancy of dimension among variables will be reduced as a result the influence of the latent outliers will be reduced. In addition, because 0 value exists among the frequency of e-WOM releaser following namely *Outdegree*, *Reply*, *Useful*, when we take logarithm, we add 1 based on every original value.

Building Logit regression model

$$LogitP(Buy) = \ln \frac{P(Buy)}{1 - p(Buy)} = \beta_0 + \beta \ln X$$

Obviously, $P(Buy) \in [-1,\ 1]$, and $\frac{P(Buy)}{1-p(Buy)}$ represents the chance ratio of followers' purchasing to followers' not purchasing. X represents a row of independents variables, $\ln X$ is logarithmic conversion of corresponding variable, β is corresponding coefficient, thus

$$P(Buy) = \frac{\exp(\beta_0 + \beta \ln X)}{1 + \exp(\beta_0 + \beta \ln X)}$$

The parameters of Logit can be got by Maximum Likelihood Estimation.

4 Empirical Result and Discussion

4.1 Statistical Description

By SPSS21.0 statistically describe the above variables before taking logarithm and the results are listed in Table 2. There are 834 data samples in which the number of followers

who didn't purchase is 580 which accounts for 69.5% of the total amount of samples meanwhile the number of followers made purchase is 254 which accounts for 30.5% of the total amount of samples. The discrepancy of frequency of e-WOM releaser being followed (indegree) is relatively big. The minimum is 10 and the maximum is greater than 1000. The discrepancy of Read and P'WOMs is relatively big as well.

Table 2. Descriptive statistical quantity

Valuable	Number(N)	Min	Max	Mean	Std. deviation
Buy	Buy = 0, N = 580 Buy = 1, N = 254	0	1	–	–
Indegree	834	10	11937	1581.362	2872.010
Outdegree	834	0	353	32.996	38.574
A'WOMs	834	2	310	67.444	60.350
Read	834	19	400278	3415.130	15822.539
Reply	834	0	190	9.510	22.623
Useful	834	0	432	3.480	16.935
P'WOMs	834	1	10325	995.310	1420.513
Star	834	2.8	5	4.619	0.170
Price	834	9	960	158.220	153.248

4.2 Logit Regression

(1) Result of regression

As for the built binary Logit regression, we analyze it with Enter method. The result shown as Table 3.

Table 3. The result of regress analysis.

Variable	Coe. estimator B	Std. deviation	Wald	*p*	EXP(B)
Indegree	0.474	0.064	53.984***	0.000	1.606
Outdegree	0.015	0.111	0.018	0.646	1.015
A'WOMs	0.994	0.170	34.268***	0.000	2.703
Read	0.635	0.123	26.563**	0.000	1.887

(*continued*)

Table 3. (*continued*)

Variable	Coe. estimator B	Std. deviation	Wald	p	EXP(B)
Reply	−0.101	0.099	1.043	0.307	0.904
Useful	−0.074	0.132	0.312	0.576	0.929
P'WOMs	0.533	0.080	44.229***	0.000	1.704
Star	16.174	3.783	18.275***	0.000	105756
Price	−0.436	0.130	11.211***	0.001	0.646
Overall adaptability of model	Omnibus test of model: $\chi^2 = 453.132$, $p = 0.000$ Hosmer–Lemeshow test value = 5.382, $p = 0.716$				
Association strength	Cox & Snell, R Square = 0.419; Nagelkerke, R Square = 0.592				

In the analysis of regression model, the most ideal state is the chi-square value reaches significance level, meanwhile, Hosmer–Lemeshow test do not reach signicance level. The Omnibus test result of this model indicates that the chi-square value got from the overall adaptability test for the regression model built by several variables is 453.132, $p = 0.000$, reaches significance level, meanwhile, the result of testing overall adaptability of regression model by the Hosmer&Lemeshow test method is: Hosmer–Lemeshow test chi-square value equals 5.382, $p = 0.716$, which doesn't reach significance level. It shows that the adaptability of model overall regression is better, that is to say, overall the dependent variables can effectively predict the follower purchase.

Considering association strength coefficient, the Cox-Snell association strength value is 0.416, and Nagelkerke association strength indicial value is 0.592. It indicates that there is a higher degree association.

In the test of the significance of individual parameter of Logit regression model, there are three independent variables which are not significant, namely, the frequency of e-WOM releaser following (*Outdegree*), number of replies to WOM (*Reply*) and amount of usefulness (*Useful*), and the same time the Wald tested values of other variables are bigger, meanwhile the p value is less than 1%, it has a very good statistical significance which shows that except the above three independent variables the other independent variables influence follower purchase significantly.

The Logit regression predication shown as Table 4. The correctness ratio of predication of follower's not purchase is 88.6%, the correctness ratio of predication of follower purchase is 74.0%, and the overall correctness ratio is 84.2%.

(2) Conclusion

The above analysis shows that the three hypotheses within the six hypotheses hold water and the others do not hold water. Among all the control variables the influence of 3 variables are significant. The conclusion summed up in Table 5.

Table 4. Predication classification table

Observation\Prediction	Prediction Buy = 0	Prediction Buy = 1	Percent
Observation Buy = 0	514	66	88.6%
Observation Buy = 1	66	188	74.0%
Overall percent			84.2%

Note: the cut value is 0.500

Table 5. The specific conclusion of Logit regression

Research hypotheses and control variables conclusion		Verified result
Hypothesis 1: between the frequency of e-WOM releaser's being followed and follower purchase there is a positive correlation		Support
Hypothesis 2: there is a positive correlation between the frequency of words-of mouth releaser's following (out-degree) and follower purchase		Not support
Hypothesis 3: there is a positive correlation between the amount of e-WOM released by e-WOM releaser and follower purchase		Support
Hypothesis 4: there is a positive correlation between the frequency of e-WOM being read and follower purchase		Support
Hypothesis 5: there is a positive correlation between the number of replies and follower purchase		Not support
Hypothesis 6: there is a positive correlation between the degree of helpfulness of e-WOM and follower purchase		Not support
Conclusion of control variable	Between the total amount of commodity e-WOM and followers' purchase there is a positive correlation	Significance
	Between the number of stars of commodity and followers' purchase there is a positive correlation	Significance
	Between the price of commodity and followers' purchase there is a negative	Significance

(3) Discussion

In terms of the network feature of e-WOM releaser, hypothesis 1 holds water and hypothesis 2 does not hold water. The conclusion of hypothesis 1 is more significant: necessarily, the more the number of e-WOM releasers who are followed is, the more possibly the followers make purchase. However, in terms of the number of people who are followed by e-WOM releaser of their own accord, although in some extent this data influences the structure of virtual community and the effect of interaction, especially when both of them follow each other, which shows even more that they have more similar fondness; the discrepancy in mean number of the frequency of e-WOM releaser's being followed and the frequency of e-WOM releaser's following is very big(1581 and 33), which shows

that such situations are few. Therefore, as to a WOM releaser who possess a lot of people being followed, although he might read the e-WOM released by other e-WOM releasers, no matter if he displays of his own accord that he follows other people and pay attention to the displayed specific number of people to whom he pays attention, there has little influence on the purchase situation of people being followed. The analysis and empirical conclusion of Yin hold that both indegree and outdegree of network features influence usefulness of WOM and then can influence the purchase condition [27]. Besides, Yin's conclusion is opposed to the thought of Min et al. [28], which explains the different kinds influence on experimental products and search products. Compare with this research, both Yin and Min come to an approximately identical conclusion except some difference in the understanding of outdegree. The products on which this research makes are experimental products, but in the empirical test we draw a conclusion that the influence of outdegree is not significant. It needs to make a further empirical exploration through associating the network features of specific websites or getting more network data. To understand hypothesis 3 is more ease. Between the amount of the e-WOM which more releasers and their numerous people being followed are closely related, so its conclusion of positive correlation is nearly similar.

From the three dependent variables of e-WOM itself, we can see just the frequency of being read influences follower purchase significantly, and the conclusion of number of replies and amount of usefulness don't get empirical support. This may result from koubei.jumei.com having different way to set the values of *Read*, *Reply* and *Useful*. The data of *Read* don't need to register, whenever it is opened, a *Read* is added, and continuous hit result in continuous count, to a certain extent it relatively objectively reflects the times of this e-WOM being read. On the contrary, adding *Reply* and *Useful* need to register and log on personal account first, which is more capable of reflecting the real behavior of community member or follower, though it needs initiative participation consciousness, namely, the community members or followers show their attitude only through leaving their comments actively to express their real opinion or hitting hit the "useful" state. Statistics of *Reply* show that both 0 and 1 account for 51.4%, and statistics of *Useful* show that both 0 and 1 account for 68%, which indicates that the participation degree of all the member is on the low side. In addition, by taking *Useful* as dependent variable and using the ratio of "the useful" to "the non-useful" to measure, analysis and empirical probation of Yin avoid the current shortage that we use absolute amount to measure "*Reply*" and "*Useful*" [27]. In the comparison and appraisement of douban.com there is "useful" or "non-useful" option, by contrast, koubei.jumei.com just set "useful", which cannot avoid the shortage of the participation degree of all the members is on the low side. Therefore, koubei'jumei.com could adopt the comparison and appraisement method of douban.com and set "useful" or "non-useful" measure option in order to make followers directly get more explicit relative value contrast in the process of browsing e-WOM as well as make the useful e-WOM serve followers purchase more conveniently.

That all the three control variables of commodity are significant indicates the total amount of e-WOM (*A'WOMs*), grade (*Star*) and price (*Price*) influence follower purchase significantly. The higher the *A'WOMs* are, the higher the grade is; the lower the price is, the more possibly the followers make purchase.

5 Research Conclusion and Prospects

5.1 Research Conclusion

In the electronic commerce practice of recent years, numerous enterprises have been aware of the values of social network in extending and cultivating client relationship and stirring up client's creative behavior. The communication and interaction among the members of social network even produce great influence on business strategy and operation, in consequence, electronic commerce enterprises set about making electronic commerce marketing plans for blending into social communication. In social network perspective this paper builds influence factor model about network WOM influencing follower purchase and takes koubei.jumei.com as the empirical object to test the hypotheses mentioned, and the conclusion is shown as below:

In the perspective of e-WOM releaser, the frequency of e-WOM releaser's being followed(indegree) positively correlates with follower purchase. The correlation between the frequency of e-WOM releaser following(outdegree) and follower purchase is not significant. In the perspective of e-WOM itself, the frequency of e-WOM being read has positive influence on follower purchase and the influence of the amount of replies and the amount of usefulness on follower purchase is not significant. In commodity perspective, the total amount of e-WOM positively correlates with follower purchase, commodity grading positively correlates with follower purchase, and commodity price negatively correlates with follower purchase.

5.2 Theoretical Contribution and Practical Enlightenment

It is highly difficult and risky to determine the consumer who follows e-WOM purchase the corresponding commodity mainly affected by current e-WOM stimulating. Therefore, all the researchers always analyze influence factors of the usefulness of e-WOM or purchase intention from every perspective of network WOM. But the special sample data of koubei.jumei.com provide us with chances for further researching actual purchase behavior. So, the main contribution of this study lies in:

(1) Based on the unique data structure of e-WOM release and follower purchase from koubei.jumei.com, It is the first time to study the impact of online WOM on followers' purchase from an individual perspective. We build and empirically test the model for researching follower purchase and make a certain theoretical contribution for network WOM.

(2) As the electronic commerce blended into social communication, the network structure of "following and being followed" among members is a main feature. Because of having more similar interests and fondness, the follower and e-WOM releaser display more identification, and then the relation about network structure of "following and being followed" comes into existence, as a result the chances that purchase behavior arise from the influence of e-WOM display more significant. We could consider that if the follower purchase behavior arises after getting e-WOM mainly is decided by the influence of e-WOM. This Logit model empirical analysis provides a new way of thinking for further research of the influence of network WOM on purchase behavior from an individual perspective.

The main enlightenment of the research discounted in this paper on electronic commerce express in the following aspects:

(1) The social network feature of e-WOM releaser is the indispensable and important factor of e-WOM. The community platform should adopt specific measure for encouraging members to improve the amount of e-WOM, meanwhile, through some means such as sample display, comparing and appraising excellence etc. guide e-WOM releaser to improve the e-WOM quality for the purpose of drawing more members' attention and increasing the influence of e-WOM.

(2) In order to avoid the regret caused by the fact that the influence of absolute amount of usefulness on follower purchase is not significant, it can be considered to provide communication interaction platform and set "useful" or "non-useful" option for benefiting follower to form clear judgment and make purchase decision in comparison among relative values.

5.3 The Limitation of Research and Prospects

Though the research and its conclusion in this paper has a certain theoretical and practical meaning, there still are some shortages, for instance, in the analysis of the network feature of e-WOM releaser, the influence of the frequency of e-WOM releaser being followed (indegree) on purchase is similar to other researcher's conclusion on e-WOM usefulness, but in the empirical test of the frequency of e-WOM releaser following (outdegree), there is relative wider discrepancy in the research conclusion and explanation, which need to be further paid attention to and remain to be researched in depth from such aspects as commodity type and website feature.

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