

Research on the Influence Model of Consumer Online Reviews on Purchase Decision Based on SPSS ——Experimental Analysis of Meituan Waimai

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Abstract-This paper uses SPSS software to analyze the influence of Meituan users' online comments on purchasing decisions, and builds a decision-making model. It confirms the hypothesis and generates the final revised model based on reviewer professionalism, review quality, review valence, review quantity, and review timeliness. The findings demonstrate that professionalism, quality, and price of online reviews all have a strong positive link, whereas number and timeliness of online reviews had little effect on consumers' purchasing decisions. To increase their commercial abilities, merchants on the Meituan takeaway platform should pay greater attention to the professionalism of commentators, the quality of comments, and the price of remarks.

Keywords-online reviews; consumer purchase behavior; Meituan Waimai platform

1. INTRODUCTION

There are several academic studies on the characteristics of online platform marketing tactics and competitive advantages now available, but there are few studies on the impact of online reviews on customer purchase behavior. This report is based on a study of Meituan, a well-known Chinese food group-buying website.

2. THEORETICAL SUPPORT AND RESEARCH HYPOTHESIS

2.1 Reviewer Professionalism

Professionalism is one of the important factors affecting the credibility of information. Comments on the Internet have limitations, which make it impossible for the rest of consumers to identify the real situation of the reviewers. Consumers can only rely on Meituan takeout platform to establish a sound system to effectively identify the source of information. Accurate measurement and expression of professionalism. As far as the reviewers with low professional level are concerned, the information received by the reviewers with high professional level is more likely to be approved by the rest of the consumers. Interfere with the final conclusion and propose relevant assumptions:

H1: There is an effective positive relationship between the professionalism of online reviewers and the purchasing behavior of consumers.

2.2 Quality of comments

Quality can accurately and effectively provide consumers with the most authentic takeout information. High-quality online reviews present the operator's personal experience and provide convenience and help for consumers to buy sex. Low-quality online reviews refer to ambiguous language expressions that fail to provide consumers with purchasing information.

In addition, the bad behavior of Meituan takeout platform brushing bills and giving red envelopes for orders has affected the reality and quality of comments to a certain extent. Zheng Xiaoping's research shows that the better the quality of comments, the more obvious the impact on consumer purchasing behavior. Zheng Haoye takes the third-party takeaway platform as an example to illustrate that the quality of comments directly interferes with consumers' purchase ideas^[1]. It is therefore concluded that:

H2: There is a significant positive correlation between the quality of online reviews and consumer purchasing behavior^[5].

2.3 Valence of comments

The titer information was divided into positive and negative categories. Usually, Meituan takeout platform is presented in the form of scores (1-5stars). Therefore, the real emotional expression of consumers can be intuitively detected from the content mentioned in the comments. Through the study, it is found that the higher the positive rate, the higher the recognition of the product, while the negative rate will change the impression of the consumer groups on the related products, and reduce brand loyalty and repurchase rate. Clicking on the store's reviews will reveal personal and comprehensive rating details. Again, the following assumptions are made:

H3: There is a significant positive relationship between the price of online reviews and consumer purchasing behavior.

2.4 Number of comments

Quantity can provide the business status and attention of the merchants. Secondly, there will be a herd mentality in consumer purchasing behavior, and they will choose to believe in the purchasing habits of the group according to the influence of different environments^[6]. When faced with the difficulty of choosing, the more the number of high-quality word-of-mouth reviews, the greater the advantage. The increase or decrease in the number of reviews constitutes the purchase intention.

According to scholars' research on the number of online reviews and consumers' purchase behavior, Du Xuemei ^[4] found that the number of online reviews positively affected consumers' purchase decisions; Zheng Haoye ^[1] demonstrated that there was a positive relationship between the amount of online reviews and consumers' purchase decisions through data. It is inferred that:

H4: There is a significant positive correlation between the number of online reviews and consumer purchasing behavior.

2.5 Timeliness of comments

Comment time and date for short. When businesses have a large number of comments and messages, but because the comment time is too long, consumers often do not choose to pay attention to the number of comments, which will also question the quality of goods and services of businesses, resulting in a decrease in passenger flow, resulting in a decline in the rate of attention^[2]. On the contrary, if the comments and comments are published recently, consumers will decide that it is worth placing an order for repurchase. Final assumptions:

H5: There is a significant positive relationship between the timeliness of online reviews and consumer purchasing behavior.

In this paper, five influencing factors are selected as independent variables: X1, X2, X3, X4, X5. The dependent variable Y is the effect of online reviews on consumer purchase behavior. The hypothetical model of the study is shown in Figure 1:

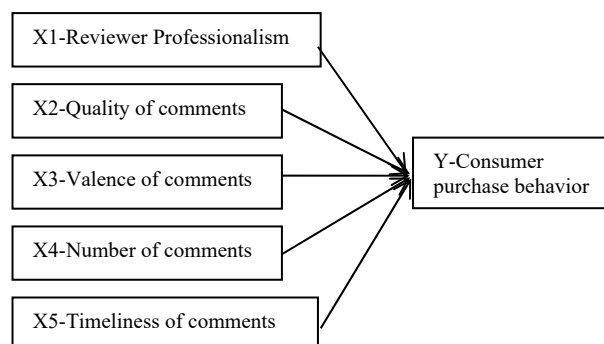


Figure 1 Study Hypothesis Model Diagram

3. METHODOLOGY

This study mainly collects data through questionnaire survey. The questionnaire is divided into two parts: the first part is the basic information of the respondents, such as gender, age, education level, occupational income and so on. The second part, as the main body of the questionnaire, uses the Likert five-comment subscale to design from the professional, quality, quantity, valence and timeliness of the comments^[7]. Questionnaires were mainly distributed in the form of online surveys, which were collected through the questionnaire star platform. The feedback results totaled 151, of which 148 were valid questionnaires, and the efficiency was 98%. According to the collected data, the basic information of the questionnaire is analyzed by SPSS software, and the multiple linear regression model is constructed to verify the regression analysis of the sample data, so as to verify the impact of online reviews on consumer purchasing behavior.

4. DATA ANALYSIS AND MODEL VALIDATION

4.1 Questionnaire design and collection

54.05% of the sample was female and 45.95% was male. From the age point of view, the sample of "21-30 years old" is relatively more, the proportion is 33.78%, and the other sample of 31-40 years old is 33.11%, these ages are young adults, life is relatively avant-garde, and most of them are skilled in using mobile phone software, so the use rate of Meituan takeout is higher. Among the academic qualifications, More than 40% of the samples choose "undergraduate", and the proportion of specialist samples is 34.46%, which shows that the subjects can easily read and understand the relevant information on the questionnaire and accept innovative forms. In terms of occupational distribution, most of the samples are "enterprise employees", accounting for 51.35%, indicating that enterprise employees have a large demand for delicious food, and their busy working life leads to a high utilization rate of Meituan takeout, which affects consumers' purchasing behavior. 41.89% of the samples will choose "3001-5000 yuan", and the proportion of 5001-8000 yuan samples is 35.81%. It shows that consumers have stable economic income, and their busy work affects their choice to use Meituan takeout, which is not only convenient and fast, but also inexpensive.

4.2 Reliability and validity analysis

In order to ensure the validity and accuracy of each variable in the reliability and validity model of the scale, this paper uses SPSS software to verify the results. The emphasis of reliability is to study the real validity of quantitative data results. Observing the Cronbach alpha coefficient, assuming that the value is > 0.8 , it proves that the reliability level is high; if the data is placed in the range of 0.7-0.8, it has good reliability; If the data is between 0.6 and 0.7, The degree to which the reliability is willing to be accepted; the final value is < 0.6 , the reliability is not up to standard, and further modification of the scale is needed. The professional reliability coefficient value of the review is 0.983, the quantity reliability coefficient value of the review is 0.967, the quality reliability coefficient of the reviews is 0.987, the valence reliability coefficient of the

reviews is 0.985, the timeliness reliability coefficient is 0.988, and the consumer purchase behavior reliability coefficient is 0.986. The CITC value is higher than 0.4, and the confidence value is in a good range. The reliability coefficient was > 0.9 , indicating high reliability, and follow-up study was conducted. Validity analysis is a criterion for judging the value of research items. Through the analysis of factor data, the level of validity was observed. The KMO value is used to infer whether the validity is meaningful. When the target value is greater than 0.8, the validity is high. The data are in the range of 0.7-0.8, and the validity is good. The data are in the 0.6-0.7 stage, that is, the validity is acceptable. If the value is less than 0.6, the validity result is not good. Excluding the research items that did not meet the criteria, the level of information induction needed to be verified by the variance rate, and the factor loading coefficient was used to measure the corresponding relationship between factors. KMO and Bartlett are used to verify the validity, as shown in Figure 2 below: when the KMO value is equal to 0.983 and higher than 0.8, the validity of the research data is very good.

KMO and Bartlett's test		
KMO value		0.983
Sphericity test	Approximate Chi-square	7800.524
	df	190
	P value	0

Figure 2 Test results of KMO and Bartlett

The variance explanation rates after rotation were 118.114%, 17.588%, 17.400%, 17.036%, 15.109% and 12.036% respectively. The explanation rate of cumulative variance was 97.309% $> 50\%$. Synthesize the factor load coefficient to determine whether there is a consistent relationship between the factor and the research item, and how the validity is. If it does not exist, it shall be readjusted. When the absolute value of the factor load factor is > 0.4 , there is a corresponding relationship between the option and the factor. To sum up, after verification, the selected six factors can extract the effective information. At the same time, the KMO value test and factor analysis of the dependent and independent variables were in line with the specified requirements.

4.3 Model Analysis

After the verification of the final reliability and validity, SPSS software was used for linear regression analysis to study the influence, direction and degree of the independent variable X on the dependent variable Y

	Non-standardized coefficient		Normaliza tion factor	t	p	VIF	R ²	Adjustm entR ²
	B	Standard error	Beta					
Constant	0.057	0.053	-	1,076	0.284	-	0.976	0.975
X1- Reviewer Profession alism	0.25	0.071	0.25	3.539	0.001**	29.42		
X2- Quality of comments	-.007	0.07	-0.068	-1.002	0.318	27.41 5		
X3- Valence of comments	0.463	0,088	0.456	5.274	0.000**	44.19 4		
X4- Number of comments	0.17	0.082	0.171	2.087	0.039*	39.96 5		
X5- Timelines s of comments	0.188	0.101	0.186	1.858	0.065	59.14 1		
F(5,142)=1155.048,P=0.000								
DEPENDENT VARIABLE Y CONSUMER PURCHASE BEHAVIOR								
D-wvalue 2.095								

Figure 3 Results of linear regression analysis

As shown in Fig. 3, it is found that $F = 1155.408$, $p = 0.000 < 0.05$ when the model is first tested, indicating that the model construction is meaningful. Therefore, X1, X2, X3, X4 and X5 are independent variables, Y is the dependent variable, and linear regression analysis is performed. The R-square of the model is 0.976, indicating that X1-X5 can explain 97.6% of the change in Y value.

Model $F = 1155.408$, $p = 0.000 < 0.05$, That is to say, at least one of X1-the professionalism of reviews, X2 -the quantity of reviews, X3-the quality of reviews, X4-the valence of reviews and X5-the timeliness of reviews will have an impact on Y-consumer purchasing behavior, using the multiple linear regression model formula: $Y = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + \dots + b_nx_n$ combined with the analysis data:

$$Y=0.057+0.250*X1-0.070*X2+0.463*X3+0.170*X4+0.188*X5$$

This paper mainly studies the independent variables that are closely related, eliminates the factors that do not meet the conditions, and re-analyzes them to show that:

The regression coefficient value of X1-comment professionalism was 0.250 ($t=3.539$, $p = 0.001 < 0.01$).

The regression coefficient value of X2-Regression coefficient value for the number of comments was -0.070 ($t = -1.002, p = 0.318 > 0.05$)

The regression coefficient value of X3-quality of comments was 0.463 ($t = 5.274, p = 0.000 < 0.01$)

The regression coefficient value for the titer of X4 -comments was 0.170 ($t = 2.087, p = 0.039 < 0.05$).

The regression coefficient of X5 -timeliness of comments was 0.188 ($t = 1.858, p = 0.065 > 0.05$).

R	R ²	Adjustment R ²	Model Error	DW value
0.988	0.976	0.975	0.411	2.095

Figure 4 Model Summary

It can be seen from Figure 4 that the R square value of the model is 0.976, X1, X2, X3, X4, X5, which can explain 97.6% of the reasons for the change of Y-consumer purchase behavior, so it has research significance.

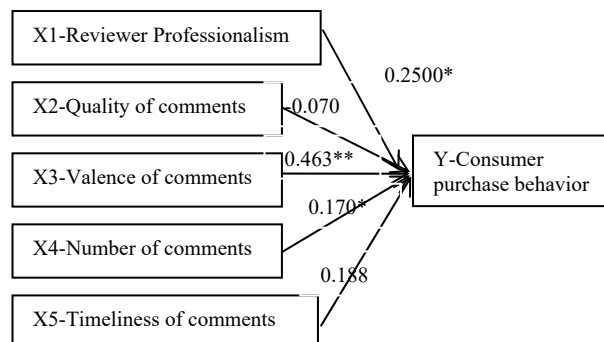


Figure 5 Model validation results

Therefore, it is verified that there is an untenable phenomenon in the assumption of fig. 5 by the linear regression analysis. It is concluded that:

H1: There is a positive relationship between the professionalism of online reviewers and the purchasing behavior of consumers.

H2: The number of online reviews does not have an impact on consumer buying behavior.

H3: There is a significant positive relationship between the valence of online reviews and consumer purchase behavior.

H4: There is a significant positive correlation between the quality of online reviews and consumer purchasing behavior.

H5: The timeliness of online reviews does not affect consumer purchasing behavior.

5. CONCLUSIONS

5.1 Research results

The study of the impact of online reviews on consumer behavior shows that the professionalism, price and quality of online reviews will directly interfere with consumer purchasing behavior. Among them, the quality of online reviews has the strongest influence, while the number and timeliness of reviews do not affect consumers' purchasing behavior. It can be inferred that there are two reasons: first, consumers first pay attention to the relevant information of the goods through the Meituan takeout platform, and then pay attention to the situation of online reviews.

Therefore, it will be ignored in the number of comments. Secondly, from the comments, we can see the level of language expression when consumers describe commodity information, and consumers can identify the quality of commodities according to the level of description, so the quality of comments is very important. On the Meituan trading platform, the time information of placing an order is not obvious, and it is easy to be ignored by consumers. According to the verification results, the revised model diagram can be obtained by eliminating the assumptions that are not supported by the original model. As shown in Figure 6:

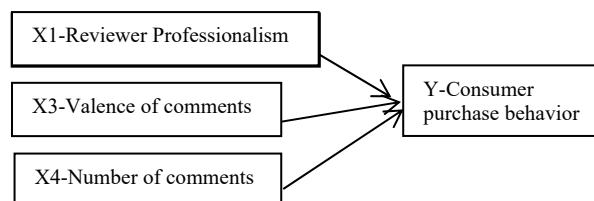


Figure 6 Modified model

On the platform of Meituan, when consumers face difficulties in choosing and avoid trampling on thunder, online reviews play a vital role in influencing consumers' purchasing behavior and leading them before they decide to buy or sell. This paper mainly studies the impact of online reviews on consumer behavior on Meituan takeout website, focusing on Fengtai Pizza Hut Zhaijisong Dacheng Road Store, obtaining valid data through questionnaire survey, and applying structural equation model to implement research and analysis.

There is a positive relationship between the three factors and consumer purchase behavior, the quality of reviews is the strongest factor, while the number of reviews and timeliness will not have a significant impact on consumer purchase behavior. When using Meituan takeout to place orders, browsing and attention are focused on the quality of other consumer reviews, indicating that the higher the rate of praise, the more orders will be placed. On the contrary, consumers will not pay much attention to the number of reviews and the time when they are published. With the rapid development of technology and the Internet, providing consumers with a convenient lifestyle is not only Meituan takeout, but also online reviews on consumer purchasing behavior on other service, retail, e-commerce and other platforms. Therefore, the

conclusion of this study is not only limited to takeout catering, but also can provide some reference for other industries.

5.2 Research Enlightenment

Online reviews have a crucial impact on consumers when placing orders for takeout, and are also an important condition for obtaining business information and the basic situation of stores. The more favorable reviews, the higher the consumer choice rate. While promoting consumption, it also brings economic benefits to businesses. Therefore, the merchants on Meituan takeout should pay more attention to the role of online reviews and make rational use of their advantages. The following article puts forward some suggestions for Meituan takeout merchants from three aspects: First, the merchants on Meituan takeout attach importance to the role of online reviews in consumer purchasing behavior. To actively encourage consumers to publish good reviews, we must first ensure that the quality is improved in quantity. Guide consumers to evaluate positive information such as taste, service, delivery and hygiene according to their feelings. The more favorable comments, the more attention the store will pay and the number of orders will increase. Second, when businesses receive bad reviews, they pay a return visit when they do not cause trouble to consumers. Make up for mistakes in a timely and effective manner. If due to packaging, hygiene, distribution and other issues, after consultation, remedies can be provided free of charge or red envelope discount. At the same time, we should improve the speed of distribution, meticulous packaging and keep a close eye on hygiene. Reduce the number of such things that no longer occur. Third, businesses should strengthen cooperation with Meituan takeout platform, timely acceptance of feedback information, and timely correction in the face of their own shortcomings. More attention should be paid to the professionalism, quality and valence of consumer reviews. So as to create a harmonious atmosphere on the Internet and make consumers more willing to describe their own experience. As the quality of online reviews increases, consumers will extract effective and accurate information about the goods sold by merchants. Win-win cooperation. The promotion of attention and recognition can promote the merchants to identify the scores with high credibility rate. In the Internet era, the gradual rise of Meituan takeout, and occupy the lives of consumers, while providing a convenient and fast way of life, there are inevitably some hidden dangers. Competitors are also improving their own shortcomings and attracting more consumers. Therefore, it is necessary to construct a harmonious and perfect online comment platform to facilitate the communication of consumers, promote their quality comments, and bring reference value to other consumers. This also requires the joint efforts of consumers to build a mutually beneficial atmosphere on the Meituan platform. Only when consumers are willing to write good online comments and express their real consumption experience, can more consumers benefit. In real and quality online reviews, consumers can select high-quality commodity information and promote the number of orders placed by merchants.

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