

## Empirical Research on the Influencing Factors of Purchase Intention in Catering Online Group-buying

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**Abstract:** It is becoming more and more popular that consumers group buy catering online, The study chose the empirical research variables and used questionnaires to analyze the factors which affect purchase intention of catering online group-buying consumers through presenting the theories of consumer behavior and intention about catering online group-buying. The result shows that perceived usefulness and of consumers both have a positive impact on consumers' cognitive value. Besides, cognitive value, the brand word-of-mouth and the characteristics of meal coupons have a positive influence on the consumer intention about catering online group-buying, while perceived risk has a negative effect on it.

**Keywords:** Catering online Group-buying purchase intention influencing factors.

### INTRODUCTION

In November 2008, the group-buying network Group on set up in the United States and made a success rapidly with its unique business model. The group-buying network started spreading to China in 2010, there appeared Meituan net, Nuomi net and so on [1]. By the first quarter of 2012, there are 3620 group-buying network enterprises [2], the amount of Internet users reached 564 million and 242 million users are online shopping at the end of December 2012[3]. Moreover, catering online group-buying occupies a marvelous proportion. For example, catering group-buying had a total turnover of 3.404 billion yuan in only first quarter of 2013[4], catering was sixty percent of Chinese network group-buying which made a total turnover of 74.75 billion yuan 2014. Although catering online group-buying presently grows fast, it also exists some disadvantages. Therefore, choosing the catering group-buying as the research object to explore the influencing factors of purchase intention in catering online group-buying under the circumstance. It will give some suggestion to the group-buying websites and enterprises of how to operate and manage catering online group-buying and offer advisable significance of how to meet the needs of the consumers.

### LITERATURE REVIEW

Group-buying appeared earlier than online group-buying. It was in 1972 that Webster and Wind discussed group-buying from the perspective of political science. they defined individuals and groups who joined one

group, and then made a collective purchase decision, shared the same goals and assumed the common risk of decision-making [5]. By researching expectation produced in the process of group buying as the starting point, Sheth put forward five steps leading expectation gap, including personal background, source, active search, sensation distortion and satisfaction on previous purchase [6]. With the development of the online group-buying model, scholars studied the optimization of bargaining model and empirical analysis on the influencing factors of online group-buying. Robert j. Kauffman and Krishnan s. Anand clarified three elements of the theory which influence online group-buying, it covers the price, cycle and demand externality, which has been cited by many later scholars [7].

With the rapid development of online group-buying, more and more Chinese scholars pay their attention to consumer demand and psychological behavior. For example, Wu [8] summarized the development of group-buying from 2002 to 2003, and expounded characteristic and influence of consumption behavior and put forward online group-buying which is favorable for both manufacturers and distributors and consumers. However, since this model may affect the buyers' interests through traditional channels, there will be a very large resistance for development. Xu [9] studied the current situation of online group-buying and analyzed the causes.

Since then, scholars focused on the research of the consumer behavior and aspect of psychology. Miao Jing[10] et al pointed out that in the process of online consumers is weighing the perceived benefits and perceived risk, in other words, perceived risk and perceived benefits affect consumer purchase intention jointly and then decide the purchase behavior. According to the features of online purchase, the perceived risk is divided into eight dimensions of economic risk, performance risk, physical risk, time risk and privacy risk, service risk, social risk and psychological risk. Cheng and Bao [11] established structural equation model (SEM) through the sampling survey of retail site's consumers and pointed out that consumers perceive convenient, safe and useful of online purchase are the three key determinant which influence consumers' online purchase attitude and intention. Besides, Online purchase useful influences attitude and intention of online purchase. Zhang and Lu [12] set up a model through the consumer online group-buying intention research, found that online group-buying consumers about perception of useful, perceived convenience and perceived risk that influence consumers' attitude towards online group-buying and then affect to participation willingness. He[13] suggested that perceived quality, perceived gains, manufacturer's brands, group-buying net's brand positively related to online group-buying consumers purchasing behavior, however, perceived risk has a negative influence on online group-buying consumers purchasing behavior.

In fact, research on catering online group-buying is still limited. Ning[14] made food service group-buying as an example and analyzed the purchase preference of online group-buying consumers. Pan [15] (2012) pointed out that the influencing factors of group-buying customer satisfaction of food service include merchant's goods and service quality, after-sales service, quality of group-buying information, communication service of website, marketing feature of group-buying goods, online payment and the design of the group-buying website.

As described above, the scholars analyzed the consumer behavior of participation in online group-buying on the basis of network group purchase research, while research on catering online group-buying is developed based on online group-buying. As catering online group-buying just appeared recently and its research is not deep enough both in quantity and depth. Hence, it is probably safe to say that the research of catering online group-buying is still in the initial stage. According to existing studies, author attempts to carry out the preliminary study of influence factors about catering online group-buying.

## RESEARCH DESIGN AND HYPOTHESIS

### The influencing factors analysis and hypothesis

According to the customer perceived value theory of Zeithaml [16], the perceived gains is mainly related to the price discount, shopping convenience, perceived quality and other factors of group-buying goods. From the technology acceptance model (Technology Acceptance Model, TAM) of Davis and other scholars, it is showed that the perceived usefulness is influenced by perceived convenience and the external variables [17,18]. Based on the Customer perceived value theory and TAM model, this study extracted three variables, "usefulness", "convenience" and "website and platform features". In addition, due to the virtual condition of catering online group-buying, consumers can't obtain true information directly, instead of the evaluation from other consumers and the description of businesses online for perceived product quality. Furthermore, under the virtual environment of catering online group-buying, there exist risks of financial and personal information disclosure, which constitutes the consumers' perceived cost. Therefore, the author used two variables research of "Risk" and "Word of mouth influence".

(1) The usefulness of catering online group-buying. Catering online group-buying can meet the needs of the consumers, and consumers can obtain better quality perception of relative interests at a relatively low price discount. The first influencing element of consumer online shopping is convenience and time-saved [19].

(2) Convenience of catering online group-buying. Compared with the traditional shopping way, perceiving the convenience of online shopping is a comprehensive evaluation of strength and energy — saved for consumers. The more convenient catering online group-buying is, the stronger the alternative of the traditional will be [6].

(3) The risk of catering online group-buying. Raymond Bauer argued that there existed uncertainty results in the process of making purchase decision, and the uncertainty is the concept of risk initially [20]. Risk is the cognitive cost of consumers including information disclosure, payment risk and so on .

(4) Word of mouth of catering online group-buying. Catering online group-buying belongs to service consumption, word of mouth will influence consumers' purchase willingness. Lin [21] studied word of mouth of online group-buying and indicated professional degree and the relationship degree of

transmitters of network disseminator had a positive effect on consumer purchase decisions.

(5) Catering online group-buying website or platform features. Brand and design of the group-buying website and usage features of consumption coupons will affect the consumer experience, and then affect purchase intention. From two dimensions of the detailed degree of the website about product description and consumer vouchers, this study designed three measurement problems.

Based on the analysis above, author put forward the research hypotheses:

H1: The usefulness of catering online group-buying has a positive influence on catering online group-buying intention.

H2: convenience of catering online group-buying has a positive influence on catering online group-buying intention.

H3: The risk of catering online group-buying has a negative influence on catering online group-buying intention.

H4: The influence of word of mouth on catering online group-buying has a positive influence on catering online group-buying intention.

H5: Catering online group-buying website or platform feature has a positive influence on catering online group-buying intention.

## DESIGN THE QUESTIONNAIRE AND INVESTIGATION

### (1). Design the questionnaire and pre-research

The questionnaire is divided into two parts. The first part is the basic information of respondents, including the information such as gender, age and online shopping experience. According to the specific effect variables, measurement indexes are designed in the second part which are the influencing factors that affect the behavior of catering online group-buying, including the usefulness, convenience risk, the influence of word of mouth and website or platform features of catering online group-buying. According to a five-point Likert-type Scale, 1 point means high disagreement; 2 points mean less high-disagreement; 3 points mean uncertain; 4 points mean less high-agreement; 5 points mean high agreement.

Ding a preliminary investigation to ensure the validity and reliability of the questionnaire. 61 questionnaires were collected in total and made personal interviews to preliminary investigators. Overall reliability preliminary questionnaire equals 0.942, so the questionnaire has a good test effect and can meet the requirement of measurement. According to validity analysis, KMO of preliminary investigation equals 0.828 and concomitant probability of Bartlett

sphericity is 0.000, less than 0.01. Therefore, these results support the factor analysis[22].

Using principal component analysis (PCA) to make a exploratory factor analysis (EFA) and four factors were extracted. Among these factors, the usefulness and convenience of catering online group-buying were combined into one factors. The variance of contribution of each factor is suitable and the rate of total variance explained was 70.039%. The rotation of orthogonal rotation method about variance maximization was applied to obtain the factor loading matrix. After rotating load matrix, the item B4 (I think catering online group-buying can make me save money), D5 (payment security of catering online group-buying), E6 (I attend the catering online group-buying is affected by relatives or friends), F1 (I like merchants describe products in detail and accurately), and subordinate elements do not belong to the same factors. In order to ensure the reliability and practicability of the questionnaire, the 4 items were deleted in the a formal questionnaire.

### (2). The formal questionnaire and hypothesis adjustment

According to adjustment factors of preliminary investigation, extracted the public factor--perceived value between the usefulness and convenience and modified the original hypothesis.

H1: Perceived value and consumer purchase intention are related positively.

H2: Usefulness and perceived value are related positively.

H3: Convenience and perceived value are related positively.

H4: The risk of catering online group-buying has a negative influence on catering online group-buying intention.

H5: The influence of word of mouth on catering online group-buying has a positive influence on catering online group-buying intention.

H6: Catering online group-buying website or platform features has a positive influence on catering online group-buying intention.

Besides, this study deleted the item B4, D5, E6, F1 which did not belong to the original factors. Given the degree of validity and reliability of the questionnaire, the fifth impact factor into the use features of voucher was changed

## VERIFICATION AND RESULTS ANALYSIS

### (1). The reliability and validity analysis

Cronbach's  $\alpha$  coefficient is used to test reliability analysis, Questionnaire overall reliability value counts 0.915, which illustrates the questionnaire has a excellent test effect and can meet the requirements of measurement. In addition, all subscales of Cronbach's  $\alpha$  coefficient surpass 0.7, which indicates that the

questionnaire scale has good internal consistency and can take the next step of analysis.

Using the KMO statistics and Bartlett's spherical test, identify whether the relevant variables of catering online group-buying influence factor are suitable for factor analysis. KMO value is 0.883 and it is greater than 0.7. Bartlett's spherical test rejected the correlation matrix as the unit array of the hypothesis. The analysis shows that these variables for factor analysis.

## (2). Factor analysis

Using principal component analysis (PCA) to conduct factor analysis (FA), extracting four common factors which explained 68.127% variance of variation, using the rotation of orthogonal rotation method about variance maximization to obtain the factor loading matrix (omitted the factors of load less than 0.5). Therefore, keep the four factors is reasonable and the scale has favorable structure validity (table 1).

**Table-1: The interpretation of the formal questionnaire of total variance**

component	Initial Eigen values			Extraction of sum of squares loaded			Rotation of the sum of squares loaded		
	total	variance %	accumulation %	total	variance %	accumulation %	total	variance %	accumulation %
1	7.558	41.989	41.989	7.558	41.989	41.989	3.641	20.228	20.228
2	2.146	11.925	53.914	2.146	11.925	53.914	3.602	20.013	40.242
3	1.386	7.701	61.614	1.386	7.701	61.614	3.151	17.504	57.745
4	1.172	6.512	68.127	1.172	6.512	68.127	1.869	10.381	68.127

## (3) Correlation analysis

Correlation analysis of binary variables with two-tailed test is made based on the analysis of Pearson correlation analysis method to test the level of significance. As shown in table 2, the significance between two variables and the cognitive value is  $0.000 < 0.01$ , which passes at the 0.01 level of significance test. The correlation coefficient between perceived usefulness and cognitive value is 0.922 as well as the correlation coefficient between perceived accessibility and cognitive value is 0.921. Hence, Both correlation coefficients are in the ideal level.

What is shown in table3 is the correlation between every variable and purchase intention:

First, cognitive value of catering online group-buying correlates significantly with total purchase intention. The Pearson correlation coefficient between them is 0.769 and significance  $0.000 < 0.01$ , which passes at the 0.01 level of significance test. It illustrates if enterprises can improve product availability and provide high quality goods and services during the process of catering online group-buying, it will

effectively improve customer purchase intention of catering online group-buying.

Second, catering online group-buying risk correlates significantly with overall purchase intention. The Pearson correlation coefficient is -0.474 and the significant  $0.000 < 0.01$ , which passes at the 0.01 level of significance test.

Third, catering online group-buying word-of-mouth effects correlates significantly with overall purchase intention. The Pearson correlation coefficient is 0.683 and the significant  $0.000 < 0.01$ , which passes at the 0.01 level of significance test.

Finally, the usage features of catering online group-buying coupons correlates significantly with overall willingness. The Pearson correlation coefficient is 0.491 and the significant  $0.000 < 0.01$ , which passes at the 0.01 level of significance test.

The summary table of the correlation coefficient is shown in table4.

**Table-2: Correlation (cognitive value)**

		cognitive value	usefulness	convenience
Pearson Correlation	cognitive value	1.000	0.922	0.921
	usefulness	0.922	1.000	0.699
	convenience	0.921	0.699	1.000
Sig.	cognitive value	.	0.000	0.000
	usefulness	0.000	.	0.000
	convenience	0.000	0.000	.

**Table-3:Correlation (each variable and purchase intention)**

		purchase intention	cognitive value	risk	Word of mouth	coupons
Pearson Correlation	Purchase intention	1.000	0.769	-0.474	0.683	0.491
	cognitive value	0.769	1.000	-0.492	0.615	0.488
	risk	-0.474	-0.492	1.000	-0.447	-0.464
	word-of-mouth	0.683	0.615	-0.447	1.000	0.464
	coupons	0.491	0.488	-0.464	.464	1.000
Sig.	Purchase intention	.	0.000	0.000	0.000	0.000
	cognitive value	0.000	.	0.000	0.000	0.000
	risk	0.000	0.000	.	0.000	0.000
	word-of-mouth	0.000	0.000	0.000	.	0.000
	coupons	0.000	0.000	0.000	0.000	.

**Table-4:The summary table of the correlation coefficient**

Hypothesis	The correlation coefficient	The level of significance
H1:Cognitive value and consumer purchase intention are related positively.	0.769	.000
H2: Usefulness and cognitive value are related positively.	0.922	.000
H3: <b>Convenience</b> and cognitive value are related positively.	0.921	.000
H4 : The risk of catering online group-buying has a negative influence on consumer purchase intention.	-0.474	.000
H5: Word of mouth of catering online group-buying has a positive influence on consumer purchase intention.	0.683	.000
H6: Reasonable design of catering coupons has a positive influence on consumer purchase intention.	0.491	.000

**Hypothesis testing**

Through the related analysis above, Pearson correlation coefficient between catering online group-buying cognitive value and overall purchase intention is 0.769, which confirms significant correlation is related. The risk of catering online group-buying is associated with overall purchase intention significantly. The Pearson correlation coefficient is -0.474 between them. Pearson correlation coefficient of the influence of word of mouth on catering online group-buying and overall

purchase intention is 0.683 showing significant correlation. Pearson correlation coefficient of the use features of catering online group-buying coupons and the overall intention is 0.491 showing significant correlation. The correlation coefficient of perceived usefulness and cognitive value is 0.922, and between perception of perceived convenience and cognitive value is 0.921, both the correlation coefficients are in ideal level. Verification results are shown as table 5:

**Table-5: The results of hypothesis testing**

Hypothesis	Result
H1:Cognitive value and consumer purchase intention are related positively.	verified
H2: Usefulness and cognitive value are related positively.	verified
H3:Convenience and cognitive value are related positively.	verified
H4:The risk of catering online group-buying has a negative influence on consumer purchase intention.	verified
H5: Word of mouth has a positive influence on consumer purchase intention.	verified
H6: Reasonable design of catering coupons has a positive influence on consumer purchase intention.	verified



## CONCLUSION AND IMPLICATION

According to the research of influencing factors on the purchase intention of catering online group-buying, it comes to a conclusion:

(1) Consumer cognitive value has a significantly positive correlation with the purchase intention of catering online group-buying. It contains consumer perceived usefulness and perceived convenience both have a positive impact on consumers' cognitive value.

(2) Cognitive value, brand word-of-mouth, perceived risk and the characteristics of the coupons affect consumers' willingness significantly. Besides, cognitive value, brand word-of-mouth and the characteristics of the coupons and perceived risk have a positive influence on the purchase intention of catering online group-buying. However, perceived risk has a negative impact on the purchase intention of catering online group-buying.

### *Implication and Suggestions*

Catering service process of online group-buying is mainly divided into two parts of the online and offline. Operator is responsible for the online, while offline services is mainly provided by the catering enterprises. According to the research above, it provides enterprises with implications that they must ensure the quality of the group-buying information in the catering online group-buying operation. Besides, paying more attention to website design, improving website interactivity and setting up a complete online evaluation system and crediting ratings system of the website. Group-buying websites should choose high quality enterprises to improve offline service quality

Catering enterprises should improve the quality of offline services, as well as focus on intimate cooperation with group-buying websites for clear responsibility. Business provides detailed, real and comprehensive information for the websites in order to make consumers a better understanding of choosing products. What's more, provide better after-sales service and so on. All this could be useful so as to provide satisfactory service for customers and then improve the catering shopping purchase intention. However, the team psychological effects and demographic variables influence on the consumer catering online group-buying intention needs further research.

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