

## The Influence Factors of O2O E-Commerce Trust Research - Based On the Perspective of Consumer Participants

Yan Zhao<sup>1</sup>, Yaru Xue<sup>2</sup>, Jing Yang<sup>3\*</sup>

<sup>1</sup>China's Internet Economy Research Institute at the Central University of Finance and Economics, Inner Mongolia University of Technology School of Management, Beijing 100081

<sup>2</sup>Inner Mongolia University of Technology School of Management, Hohhot 010051

<sup>3</sup>China's Internet Economy Research Institute at the Central University of Finance and Economics, Inner Mongolia University of Technology Institute of Machinery, Beijing 100081

**Abstract:** *With the rapid development of group purchase, O2O e-commerce gradually became a part of people to the Internet life. But many unstable and uncertain factors make consumer's trust in the group purchase had shaken, and limits the O2O e-commerce further development. Therefore, to analyze what factors influence the consumer trust in group-buying is very important. With the survey of 195 real sample, this article adopts the method of structural equation to map the web based trust, third party trust, merchants trust and trust to group-buying trust path graph, and find that four aspects will be positive influence on trust in group-buying, and trust is the main influence factors. Finally, according to the empirical analysis, this article put forward the corresponding to a group of operator management countermeasures.*

**Keywords:** *Electronic commerce; O2O; Trust.*

### 1. INTRODUCTION

With the development of the Internet more in-depth, more and more users to join the growing ranks of online shopping. Then, how to keep consumers continue to trust of e-commerce will become the research focus. After reading related literature, the research results of scholars both at home and abroad, which is mostly aimed at B2B, B2C or C2C, less research the field of O2O e-commerce. O2O e-commerce, mainly refers to the electronic commerce online payment offline consumption pattern, is the major electricity for field. So this article will be based on the perspective of consumer participants will affect consumer confidence in the O2O is divided into: trust in group-buying, confidence in the third-party payment, merchant's trust and the trust of the consumers for offline consumption tendency.

### 2. RELATED WORKS

#### 2.1. Trust in Group Purchase Website

As a commodity information collection and release, the websites will be the link between businesses and consumers. Website information authenticity, suppliers of universality, price of the product, the authenticity of the online evaluation will affect the consumer trust in the group purchase website.

#### 2.2. Trust in Payment Platform

Payment activities is an important process in the whole group-buying, smoothness and safety of the whole process of trading will greatly affect the consumer's trust in group-buying. As a bulk trading platform, the payment platform, which the website choose, should guarantee the secure transactions in any network environment, and support the different Banks or third-party payment platform. These factors will all affect the consumer's trust in the payment platform.

### **2.3. Trust in Offline Businesses**

Offline consumption is the most important part of the group purchase, and consumers' actual consumption feelings will affect the final evaluation of the group purchase. Product quality, the indiscriminate treatment services, and a good consumption environment would affect the consumers' online reviews, and finally affect the other user's consumption again.

### **2.4. Dispositional Trust**

Trust is a complex psychological phenomenon, Burt and Sitk in think trust will certainly include two aspects: one is the risk that one party is willing to accept their trust relationships may be hurt by the other party's risk; the other one is dependency, one party relying on the other side of the behavior, and obtain some benefits, that is to say one party shall have positive expectation to the other party. But in real life, because of the different risk assessment for trust, which makes some people more likely to believe in others, and some people find it hard to believe that others. In the psychology, the difference is known as Dispositional Trust.

### **2.5. E-commerce Trust**

Research on e-commerce trust in theory mainly include: the antecedent research and the institutional research, and mainly on the research content is divided into: initial trust and subsequent trust. The antecedent research aims to research factors affecting the formation of e-commerce trust, found the factors for promoting the electronic commerce trust, which provide thinking for e-commerce vendors to shape consumer trust. Institutional research from the theoretical perspective to explore the establishment of the trust mechanism. Institutional research suggests the existence of trust is due to the existence of certain laws or is humanity's common characteristic, thus theoretically explore these rules, it should be said to build trust is to explore the general theory of institutional research, often has a profound theoretical foundation. For the study of e-commerce trust will lag in the study of trust, so researchers generally is the theory of institutional research results applied to the study of e-commerce trust.

## **3. EMPIRICAL ANALYSIS**

### **3.1. Variable Selection and Measurement**

Comprehensive the above theory study, the choice of the variables in this paper and measures refer to the table below:

**Table1.** *Research Variable*

Variables	Serial Number	Measurement Items
Trust in Group Purchase Website (NGW)	TGPW1	I believe that the group purchase website can release the real and effective information
	TGPW2	I believe that the group purchase website can include all products I need
	TGPW3	I believe that the group purchase website can provide the best products
	TGPW 4	I believe that online reviews are real and effective
Trust in Payment Platform (TPP)	TPP1	I believe the pay environment is safe
	TPP2	I believe I can get any payment support I want
	TPP3	I believe that I will not have a property loss
Trust in Offline Businesses (TOB)	TOB1	I believe I can get the high quality product
	TOB2	I believe I can get a fair service
	TOB3	I believe I can get a good consumption environment

Dispositional Trust (DT)	DT1	I'm easy to believe that somebody or something
	DT2	I think most people are trustworthy
	DT3	I usually don't doubt the others' words
Trust in Group Purchase (TGP)	TGP1	I believe that the group purchase can bring convenient to my life
	TGP2	I believe I can have a better choice after group purchase
	TGP3	I believe that the group purchase will not bring loss to me

This study designs 16 questions to measure the 5 variables, and select the Structural Equation Model to test the proposed model. Answers will be used on the five point Likert Scale, which is internationally agreed to score method: "1" represents "strongly disagree", "5" representing "strongly agree".

### 3.2. Statistics and Inspection

#### 3.2.1. Data Collection and Statistics

In order to guarantee the accuracy and reliability of the data, the investigators issue 30 preliminary investigation questionnaires before the formal investigation. Preliminary investigation of Cronbach's alpha coefficient value is 0.925, more than 0.7; each term is bigger than 0.5, the total correlation shows that the questionnaire has good reliability, and it can be a formal investigation. The investigators surveyed 200 college students 198 were back, 195 valid. Known from the analysis of valid questionnaires population statistics: gender, sex ratios were 43.2% and 56.8% respectively; Education, undergraduate students accounted for 39.8%, master is 60.2%. This sample of demographic characteristics is similar with the countrywide online shopping demographic characteristics, which from "the China Internet network information center" in recent years the population of students online investigation report. So we can have a further analysis.

#### 3.2.2. Reliability and Validity Test

In this paper, using Cronbach's alpha coefficient of the Reliability of test data, with an Average Variance Extracted (AVE), Composite Reliability (CR) and KMO value of test data validity, which AVE and CR computation formula is as follows: Cronbach's alpha

$$VE = \frac{\sum \lambda_i^2}{(\sum \lambda_i^2) + (\sum (1 - \lambda_i^2))}$$

$$CR = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + ((\sum (1 - \lambda_i))^2)}$$

The table 2 shows that the factor loading of every index is bigger than 0.6, Cronbach's coefficient is bigger than 0.8, KMO value is bigger than 0.7, AVE values is bigger than 0.6, the CR value is bigger than 0.8, which is conform to the requirements. And the whole questionnaire Cronbach's coefficient is 0.951, KMO value is 0.943, Bartlett the approximation of spherical test chi-square value is 2391.671, concomitant probability is 0.000, which showing the scale having good reliability and structural validity.

**Table2.** Reliability and Validity Test

Variables	Serial Number	Factors Loading	Cronbach's alpha	KMO	AVE	CR
Trust in Group Purchase Website (NGW)	TGPW1	0.861	0.886	0.829	0.6698	0.8894
	TGPW2	0.844				
	TGPW3	0.868				
	TGPW 4	0.687				
Trust in Payment	TPP1	0.849	0.863	0.724	0.6897	0.8690

## The Influence Factors of O2O E-Commerce Trust Research - Based On the Perspective of Consumer Participants

Platform (TPP)	TPP2	0.889	0.870	0.738	0.6909	0.8700				
	TPP3	0.747								
Trust in Offline Businesses (TOB)	TOB1	0.783								
	TOB2	0.833								
	TOB3	0.875								
Dispositional Trust (DT)	DT1	0.800					0.842	0.733	0.6600	0.8534
	DT2	0.811								
	DT3	0.826								
Trust in Group Purchase (TGP)	TGP1	0.859					0.886	0.683	0.7389	0.8943
	TGP2	0.794								
	TGP3	0.921								

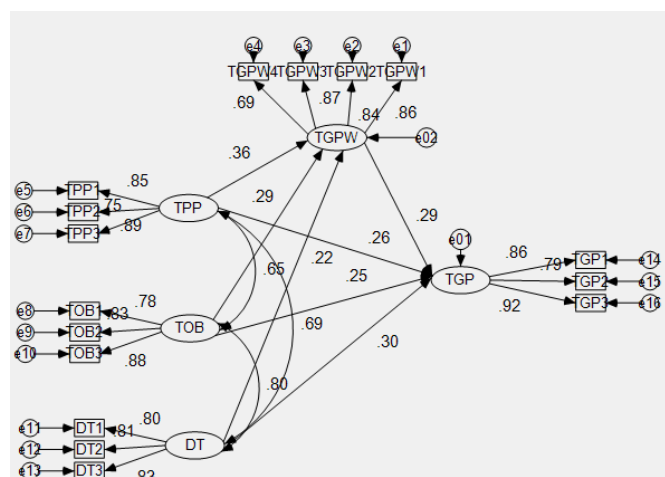
### 3.3. Model Fitting and Hypothesis Test

This article applies AMOS17.0 software to fit the model, and concrete model adaptation degree index is shown in table 3. The table shows that the detection index values are in the scope of acceptable level, and illustrate the adaptation degree of the model is good.

**Table3.** Adaptation Degree of Inspection

Fit Index	Judging Criteria		Actual Value of The Model	Level of The Fitting
	good	perfect		
CMIN/DF	2-3	<2	1.505	good
RMSEA	0.05-0.08	≤ 0.05	0.051	good
GFI	0.8-0.9	≥ 0.9	0.922	perfect
AGFI	0.8-0.9	≥ 0.9	0.888	good
NFI	0.8-0.9	≥ 0.9	0.943	perfect
CFI	0.8-0.9	≥ 0.9	0.980	perfect
IFI	0.8-0.9	≥ 0.9	0.980	perfect
RFI	0.8-0.9	≥ 0.9	0.927	perfect

Consumer trust in group-buying model fitting path is shown in figure 1, because of the path coefficient of indicators hypothesis test P values are both less than or equal to 0.001, which shows that the fitting path coefficient in line with the hypothesis test, and the fit of the model is high.



**Fig1.** Fitting Figure

#### 4. THE EMPIRICAL RESULT ANALYSIS

Through empirical found that consumers trust in group-buying, confidence in the third-party payment, merchant's trust, and trust for offline consumption will affect the ultimate trust. Among them, the internal factors of Dispositional Trust (DT) is the main factors that affect Trust in Group Purchase (TGP), and its direct path coefficient is 0.3, through to the Trust in Group Purchase Website (NGW) indirect path is 0.0638 ( $0.22 \times 0.29$ ), so the ultimate effect coefficient of DT to TGP is 0.3638. Consumers TGPW significantly affected the TGP, the role of the path coefficient of 0.29. Figure 1 show that consumer confidence in the third party payment and business will affect consumer's trust in the group buying, which shows that the quality of the websites will be influenced by the third party payment and business, and ultimately affect the consumer experience of group activities. The TPP on the direct effect of the TGP path coefficient is 0.26, by TGPW effect of indirect path coefficient is 0.1044 ( $0.36 \times 0.29$ ), the role of the final path coefficient is 0.3644, and the convenient safety of consumer payment will significantly affect the consumer of the TGP. The TOB on the direct effect of the TGP path coefficient is 0.26, through TGPW, the effect of indirect path coefficient is 0.0841 ( $0.29 \times 0.29$ ), and the total effect path coefficient is 0.3341.

#### 5. POLICY PROPOSALS

Through the analysis of the above empirical results proves that: quality of website, the pay for safety and the offline businesses will significantly affect the quality of the final group buying. Operators should manage to these three aspects at the same time, to weaken consumers' distrust.

- To strengthen the safety management of the site. With the development of electronic commerce, transaction security issues will significantly affect the consumers' evaluation of the whole process of group purchase. Group-buying websites should strengthen the site safety awareness, and selects the high-profile third-party payment platform, strengthen the claim amount, to give consumers more security.
- Strengthen the screening and monitoring of suppliers. Because users attach great importance to the final consumer, so businesses should strictly control suppliers, resolutely put an end to unqualified suppliers. Lower for online evaluation of merchants, managers need to pay a return visit regularly, and give the adjustment suggestion.
- First of all, because the website is a platform of decision, should provide a greater range of options, so web site need to constantly expand their business scope. Moreover, because users need to finish in a short period of time to choose, so the operation should be designed compactly, clearly and friendly, thereby enhancing interactivity
- To strengthen the publicity website. Strengthen the propaganda site, not only can improve the visibility of websites, but also through celebrity endorsements and other means to reduce consumers' uncertainty, thus improve the trust of consumers.

Developed along with the media and the development of science and technology, people enjoy modern life at the same time, also enhanced the ego to protect consciousness, so that more people are hard to build trust in others. Therefore, strengthening the management of more than four points, and would reduce consumer awareness and thus build more trust O2O e-commerce consumption.

#### ACKNOWLEDGEMENTS

This work was mainly supported by National Natural Science Foundation of China (71363038), Inner Mongolia youth talents of science and technology support plan of China (NJYT-15-B08), Talent development fund project in Inner Mongolia of China, Inner Mongolia department of soft science project of China, Inner Mongolia university of technology's first youth academic backbone talents support program.

**REFERENCES**

- [1] Davis, F.D., R.P. Bagozzi, P.R. Warshaw. User acceptance of computer technology: a comparison of two theoretical models [J]. *Management science*, 1989, 35(8):982-1003.
- [2] Nysveen, H., P.E. Pedersen, H. Thorbjørnsen. Explaining intention to use mobile chat services: moderating effects of gender [J]. *Journal of Consumer Marketing*, 2005, 22(5):247-256.
- [3] Xiang, Y., X. Wu, Q. Chen. Personal innovativeness and initial adoption of M-Commerce: Toward an integrated model [C]. In *Proceedings of the Management of Innovation and Technology*, 2008. ICMIT 2008. 4th IEEE International Conference on, Year.
- [4] Davis, F.D., R.P. Bagozzi, P.R. Warshaw. Extrinsic and intrinsic motivation to use computers in the workplace 1 [J]. *Journal of applied social psychology*, 1992, 22(14): 1111-1132.
- [5] Pagani, M. Determinants of adoption of third generation mobile multimedia services [J]. *Journal of interactive marketing*, 2004, 18(3):46-59.
- [6] Liao, C.-H., C.-W. Tsou, M.-F. Huang. Factors influencing the usage of 3G mobile services in Taiwan [J]. *Online Information Review*, 2007, 31(6):759-774.
- [7] Fishbein, M.J. Ajzen. *Belief, attitude, intention and behavior: An introduction to theory and research* [M]. 1975.
- [8] Cheong, J.H.S.M.-C. Park. Mobile internet acceptance in Korea [J]. *Internet research*, 2005, 15(2): 125-140
- [9] Davis, F.D. Perceived usefulness, perceived ease of use, and user acceptance of information technology [J]. *MIS quarterly*, 1989:319-340.
- [10] Davis, F. D. A technology acceptance model for empirically testing new end-user information systems: theory and results [Z]. Ph. D. dissertation, MIT Sloan School of Management, Cambridge, MA, 1986.
- [11] MCKNIGHT D H, CHOUD. HURYV. Developing and validating trust measures fore-commerce: an integrative typology [J]. *Information Systems Research*, 2002,13(3):334-359.
- [12] Z. - C. The research to the influential factors of mobile commerce customer trust [D]. 2013
- [13] Z., W., F. Social commerce environment based on social capital network word of mouth and purchase intention relations [J]. *Nan Kai management review*, 2014, 17 (4): 140-150
- [14] Z. C2C e-commerce environment of college students' perceived risk measurement and influencing factors of research [D]. Capital economic and Trade University. 2014
- [15] Z., L. Relationship marketing, online reputation trust in B2C e-commerce transactions [J]. *The influence of soft science*, 2013, 27 (8): 80-84

## AUTHORS' BIOGRAPHY



**Yan Zhao**, the central university of finance and China's Internet economy research institute postdoctoral, associate professor of Inner Mongolia University of Technology school of management, tutors, director of the center for the Internet economy in Inner Mongolia;



**Yaru Xue**, Inner Mongolia University of Technology, a postgraduate student in school of management;



**Jing Yang**, China's Internet economy research institute senior visiting scholar at the central university of finance and economics, associate professor of Inner Mongolia University of technology institute of mechanical.