

Research on Consumer Trust of Fresh Products in O2O Mode

Yuchen Zou^{1, a} and Xiaoting Qu^{2, b*}

¹Beijing Jiaotong University, China

² Beijing Jiaotong University, China

^a18151400302@163.com, ^bxtqu@bjtu.edu.cn

*Corresponding author

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Abstract. With the wide application of Internet information technology, the E-marketing of fresh agricultural products has been developed rapidly. However, the current situation of small-scale agricultural economy in China determines that the fresh agricultural products are decentralized management, therefore, it is difficult for consumers to effectively obtain relevant product quality guarantees. Moreover, the capital flow and information flow of O2O platform transaction are in a high-risk environment, and there is network security problem. Based on this, this paper will make an empirical study on the influencing factors of consumer trust under the O2O mode, and put forward some suggestions for improving consumer trust.

Introduction

The current situation of China's small-scale peasant economy determines that fresh agricultural products are mainly distributed and decentralized, with low degree of homogenization and uneven quality. And fresh agricultural products have the characteristics of perishable, high loss, short-lasting and short-lived. At present, only 1% of China's fresh e-commerce enterprises are profitable and more than 95% lost. For e-commerce enterprises of fresh agricultural products, profit is a big problem. In addition, the network information security problem makes their online consumption always in a high-risk environment. The asymmetrical information between consumers and merchants can easily lead to consumer trust dilemma.

Based on this, this paper will empirically study the factors affecting the trust of consumers in O2O mode of fresh products. By summarizing the relevant research results such as O2O mode and consumer trust, this paper builds the impact mechanism of consumer trust in fresh agricultural products under the O2O model. It is hoped that through this research, we can supplement the research vacancies in the field of O2O sales model of fresh agricultural products in China, and propose countermeasures and suggestions for improving the trust of consumers in the fresh O2O platform and merchants.

Literature Review

O2O Mode Overview

The essence of the O2O model is to improve the consumer experience through online and offline resource integration. Its characteristics are service and experience offline, transaction and promotion can be traced, and through online consumption records. Merchants can grasp the consumer dynamics timely, develop personalized services, enhance customer experience, and cultivate customer loyalty. Lu Yiqing (2013) analyzes the current development status of O2O in China, compares the advantages and disadvantages of this mode from three dimensions: consumer, merchant and O2O platform, and forecasts the development prospect of O2O model [1].

At present, the successful O2O platforms at home and abroad mainly include Uber, Trunkclub, Dianping and Ctrip [1]. The O2O business model is more suitable for the interests of the relevant in

the era of niche demand. The complete O2O business model creates value for all relevant stakeholders, including merchants, consumers, and O2O operators, through the online platform's information flow, capital flow, and offline logistics and business flows.

Consumer Trust Theory

At present, domestic and international research on consumer trust focuses on the influence of trust in the process of consumer purchase decision-making and the cause of trust. Gefen studies the online shopping behavior of consumers in e-commerce environment and builds the consumer trust model based on the TAM theory, which is shown in Figure 1[2]. The model indicates that the computational process, structural assurance, situational norms, familiarity, and perceived ease of use positively impact trust.

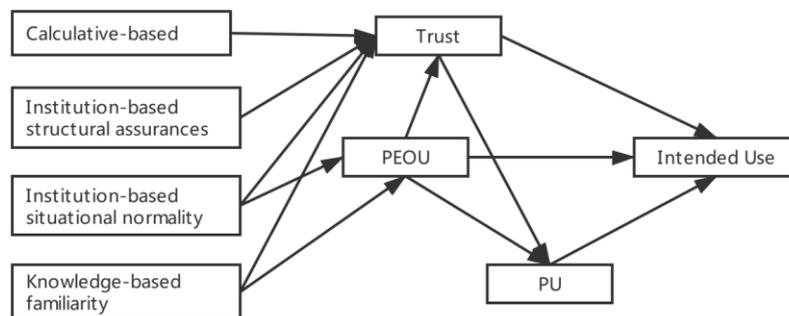


Fig. 1 Consumer trust model based on TAM

Research on the Factors Affecting the Consumer Trust of Fresh Products

At the personal level, the factors affecting consumer trust mainly cover consumers' trust tendency, familiarity and consumption experience. Koufaris (2002) believes that trust tendency can promote consumers to form a positive attitude of trust, which in turn affects consumers' online trust [3]. Corbitt (2003) considers that the more familiar consumers are with e-commerce, the more trust they have in websites [4]. In addition to personal factors, the website's institutional assurance, website design quality, information quality, etc. will also significantly affect online consumer trust. McKnight, Chervany (2002) find that due to the virtual nature of e-commerce transactions, institutional assurances help consumers build trust in websites [5].

With the e-commerce in the O2O mode falling into the dilemma of consumer trust, experts and scholars have conducted research on how to more effectively establish the trust relationship between consumers of fresh agricultural products. Lin Jiabao, Wan Junyi (2015) through empirical research conclude that product characteristics, service quality and consumer characteristics significantly affect the trust of fruit e-commerce consumers [6]; Yan Bingwen (2017) based on three levels, to summarize the researches on the trust of e-commerce platform sellers [7].

An Empirical Analysis of the Factors Affecting Consumer Trust of Fresh O2O Mode

Research Model

Based on the consumer trust model proposed by Gefen et al., this paper increases the influencing factors of product feature and O2O platform trust, and builds the influence of consumer trust in fresh products with O2O mode. The research model is shown in Figure 2.

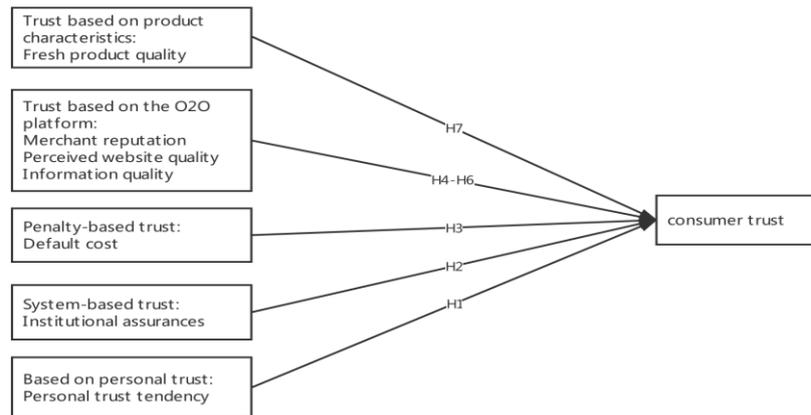


Fig. 2 Theoretical research model

Research Hypothesis

Hypothesis 1: Personal Trust Tendency Positively Affects Consumer Trust of Fresh O2O Mode.

Trust tendency is a stable personality trait and will not change because of the environment. Mayer believes that consumers will look for trustworthy features when deciding whether to trust each other, and personal trust tendency can enhance or reduce the impact of these trust characteristics on trust .

Hypothesis 2: Institutional Assurance Positively Affects the Consumer Trust of Fresh O2O Mode.

Institutional assurances refer to the trust generated by consumers based on reliable transaction security policies, privacy protection statements and other structures that are not related to the transaction object. McKnight and Chervany consider that consumer trust in e-commerce websites is heavily influenced by privacy and security factors [6].

Hypothesis 3: Default Cost Positively Affects the Consumer Trust of Fresh O2O Mode.

Punitive trust is a rational assessment based on economic benefit analysis. From the perspective of profit-seeking and avoiding harm, when the cost generated by the choice of deception exceeds the gain that cooperation can obtain, it can be believed that the rational opponent will not take cheating behavior [28].

Hypothesis 4: Merchant Reputation Positively Affects the Consumer Trust of Fresh O2O Mode.

In the network environment, reputation refers that the consumers form overall evaluation of the trust target by ability, goodwill, honesty, etc. through online evaluation and interpersonal communication. McKnight et al. believe that a good business reputation will motivate consumers to trust them without directly grasping the business information.

Hypothesis 5: Perceived Website Quality Positively Affects the Consumer Trust of Fresh O2O Mode.

The quality of fresh online marketing services mainly includes the quality of website information and system. The quality of website information refers to the comprehensibility, reliability and usefulness of the information provided by the website. The quality of website system refers to the ease of use and interactivity of website design. The study finds that the quality of e-commerce website design significantly affects consumer trust [7].

Hypothesis 6: Information Quality Positively Affects the Consumers Trust of Fresh O2O Mode.

In the transaction trust of the network trust field, the information quality is that receivers evaluate the accuracy, relevance and usefulness of information in the process of sharing information in the network environment [7].

Hypothesis 7: Quality of Fresh Product Positively Affects the Consumers Trust of Fresh O2O Mode.

Product quality is one of the most important attributes of the product, including the intrinsic quality and appearance quality of the product [7]. The intrinsic quality of fresh products mainly refers to its nutritional value and safety; the external quality mainly refers to its appearance, color and taste, etc. If the fresh products sold by the merchants online allow consumers to perceive better internal quality and external quality, it will enhance consumer trust.

Survey Design

This paper prepares a questionnaire for the indicator system. The questionnaire consists of three parts. The first part is the explanation part, explaining the concept of the O2O mode and the purpose of the research. The second part is the basic situation of consumers, including gender, age, education level, online shopping experience of fresh products and the use situation of fresh O2O platform. The third part is the model measure of the influence factors of consumer trust in fresh products under O2O mode. Among them, the third part of the questionnaire uses the five-level Likert scale, inviting the respondents to choose according to their actual feelings.

A total of 452 questionnaires are distributed in this study, and 430 valid questionnaires are received. The effective recovery rate is 95.13%. The data is analyzed with SPSS and AMOS.

Descriptive Statistical Analysis

In terms of gender distribution, the distribution of male and female samples is relatively balanced. About age, the age distribution is similar to fresh e-commerce consumers' distribution, concentrated in 18-33 years old. In the distribution of education level, college or university undergraduate students accounted for 77.9%, and graduate students accounted for 13%. In terms of consumer behavior, the respondents have sufficient online shopping experience, and most of the respondents have experienced the consumption in the fresh O2O platform.

Reliability Analysis

Table 1. Coefficient of reliability

Construct	Cronbach's Alpha	questions
Personal trust tendency	0.752	3
Institutional assurance	0.853	4
Default cost	0.866	4
Quality of fresh product	0.879	4
Merchant reputation	0.886	3
Perceived website quality	0.851	3
Information quality	0.864	3
Consumers trust of fresh O2O mode	0.923	5
Overall	0.955	29

The research variables involved in this study have personal trust tendency, institutional assurance, etc. The reliability results through SPSS analysis are shown in Table 1. The Cronbach's Alpha coefficient of each variable is bigger than 0.7, so the index system established in this study has a good reliability level.

Validity Analysis

Exploratory Factor Analysis.

It can be seen from Table 2 that the KMO of each variable are above 0.7, the P value is less than 0.01, the Bartlett's test is significant, and the overall KMO of the scale is 0.943, so the overall validity of the sample is good, and the indexes have validity and correlation.

Table 2. Results of validity analysis

Construct	KMO	Bartlett's Test of Sphericity	P value	% of Variance
Personal trust tendency	0.750	182.805	.000	66.980%
Institutional assurance	0.771	451.675	.000	69.828%
Default cost	0.821	470.040	.000	71.977%
Quality of fresh product	0.798	519.560	.000	73.598%
Merchant reputation	0.733	412.052	.000	81.681%
Perceived website quality	0.700	340.174	.000	77.240%
Information quality	0.691	389.974	.000	78.695%
consumers trust of fresh O2O mode	0.858	899.931	.000	76.531%
overall	0.943	5190.087	.000	76.925%

Confirmatory Factor Analysis.

After testing, it can be known that the fitting degrees of factor analysis model are all in acceptable range, so the model fits well and can be accepted. It can be seen from the above test that the measurement model used in this paper has good construction validity.

Empirical Analysis

In this study, 29 observation variables and 8 latent variables were used. The model parameters were estimated using AMOS. Each path data and significance test are shown in Table 3. Using path data and T value test to verify hypotheses, and all standardized path coefficient values are greater than 0, and $P < 0.001$. The T test is significant. Therefore, personal trust tendency, Institutional assurance, default cost, merchant reputation, perceived website quality, information quality and quality of fresh product have significantly positive impact on consumer trust. H1-H7 are established.

Table 3. Path data parameter estimation

	Path		Estimate	B	S.E.	C.R.	P
consumers trust	<--	Personal trust tendency	.087	.117	.049	3.549	***
consumers trust	<--	Institutional assurance	.170	.256	.035	4.799	***
consumers trust	<--	Default cost	.130	.199	.035	3.746	***
consumers trust	<--	Quality of fresh product	.061	.082	.038	3.63	***
consumers trust	<--	Merchant reputation	.287	.391	.042	6.867	***
consumers trust	<--	Perceived website quality	.298	.408	.042	7.101	***
consumers trust	<--	Information quality	.426	.505	.057	7.466	***

Note 1: ***means $P < 0.001$, B is the coefficient of standardized path.

Conclusions and Recommendations

Provide Consumer System Protection and Implement Full-Process Trading Control

The higher the institutional assurances, the stronger the consumers trust of fresh O2O. Therefore, it is recommended that the O2O platform strictly control the source of the product, increase the cost of reviewing the business, pay attention to the consumer's right to know the privacy of the network, provide a transparent mechanism for consumer information, and take certain property protection measures.

Improve Credit Assessment and Build A Credit Evaluation System

The greater the default cost, the stronger the consumers trust of fresh O2O. Therefore, it is recommended that the fresh O2O platform establish an internal trust system, and use the accumulated and analyzed real evaluation to make recommendations for merchants with high praise rates.

Optimize Service Quality and Maintain Reputation

The higher the reputation of the merchants, the stronger the consumers trust of the fresh O2O. Therefore, it is recommended that merchants pay attention to consumer evaluation and improve service quality. If there is a conflict in the transaction, the merchant should promptly take remedial measures to make consumers fully understand the credibility of the business itself and service commitment through communication and actual service.

Improve Website Quality and Increase Consumer Viscosity

The higher the quality of perceived websites, the stronger the consumers trust of fresh O2O. Therefore, the quality of website design is directly related to the consumer experience and trust level. The fresh O2O platform should improve the website environment from the comprehensive dimensions of website content, impression, function, usability, ease of use and security to gain consumer experience.

Manage Information Release, Disclosure Details

In the process of online consumption, consumers will make core considerations on purchasing decisions through the perceived use value and pleasure of information quality, which will affect the intensity of consumption trust of fresh products. Therefore, it is recommended that merchants pay attention to the disclosure of information about themselves and product services.

Control Product Quality and Improve Consumer Experience

The higher the quality of fresh products, the stronger the consumers trust of fresh O2O. Therefore, fresh O2O merchants can use the senior nutritionist to conduct nutritional analysis on fresh products, propose corresponding purchasing opinions for different consumer groups, set up a professional purchasing team to ensure the quality of fresh products, and refuse any waxing, injection additives and other artificial ways to improve product quality.

References

- [1] Lu Yiqing. Research on O2O Business Model and Development Prospects [J]. Corporate Economy, 2013,11:98-101.
- [2] Gefen D, Straub D W. Trust and TAM in online shopping: an integrated model[J]. Mis Quarter-ly,2003,27(1):51-90.
- [3] Koufaris M. Applying the technology acceptance model and flow theory to online consumer behavior[J]. Information Systems Research,2002,13(2):205-223.
- [4] Corbitt B, Thanasankit T, Yi H. Trust and E-commerce: A study of consumer perceptions[J]. Elec-tronic Commerce and Research and Applications,2003,2(3):203-215.

- [5] Mcknight D H, Chervany N L. What trust means in e-Commerce relationships: an. Interdiscipli-nary conceptual typology[J]. International journal of electronic commerce,2002,6(2):35-59.
- [6] Lin Jiabao, Wan Junyi, Lu Yaobin. Analysis of Influencing Factors of E-Commerce Consumer Trust in Fresh Agricultural Products: Taking Fruit as an Example[J]. Business Economics and Management, 2015(05): 5-15.
- [7] Yan Bingwen. A review of the research on seller trust of e-commerce platform in big data environment [J]. E-commerce, 2017, (11): 23-24.