

Model of Factors that Influence the Intention of Purchasing Agricultural Products Online in Fujian Province, the People's Republic of China

¹Chen shuyun, ²Preyaporn Teeraporn Lertratt,
³Buraporn Kumboon and ⁴Ariya Phuvakeereevivat

Faculty of Business, Bangkokthonburi University, Thailand.

Email: ¹779694128@qq.com, ²preyaporn.tee@bkkthon.ac.th, ³burapornkumboon@gmail.com,
⁴ariya.phu@bkkthon.ac.th

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Abstract

This article aimed 1) to study and examine the coherence of the model with the empirical data of the model of factors that influence the intention of purchasing agricultural products online in the Fujian province. And 2) to develop a model of factors that influence the intention of purchasing agricultural products online in the Fujian province. Quantitative research, the sample group was consumers of agricultural products in the Fujian region. They were selected using the snowball sampling method. Qualitative research, the researcher analyzed the collected data and selected 10 groups with experience in purchasing agricultural products in the Fujian region using a targeted interview method. The instruments for collecting data were questionnaires and in-depth interviews. Analyze quantitative data using statistics such as frequency, mean, and standard deviation correlation analysis and structural equation modeling to be used in the final analysis of intentions to purchase agricultural products. Qualitative data were used in document research to analyze and synthesize the data and write a descriptive narrative. The research results were as follows;

1. The intention to purchase agricultural products online in Fujian Province is influenced by multiple factors. Firstly, consumers' personal characteristics have a certain impact on their online purchasing intentions. Secondly, consumers' cognitive factors, including their awareness of online procurement and the quality of agricultural products also has an impact on their intentions. Third, consumers' attitudes and behavioral behaviors can also influence their intentions. Finally, market environment and policy factors may also have an impact on consumer intentions, such as price levels and the development of agricultural supply chains.

2. The "Fujian Province Agricultural Products Online Procurement Intention Factors Model", the model provides theoretical support and decision-making reference for the development of agricultural e-commerce and the optimization of agricultural supply chain in Fujian Province.

Keywords: Intention of Purchasing; Purchasing Agricultural Products; Products Online; Fujian Province

Introduction

Fujian Province is a major agricultural production province. Expanding the sales path of agricultural products and improving consumers' willingness to purchase agricultural products are important ways to improve the sales volume of agricultural products. According to the statistics of Official website of the National Bureau of Statistics, the gross output value of agriculture, forestry, animal husbandry and fishery in the first three quarters of 2022 will be 340.551 billion yuan, an increase of 4.7% over the same period of the previous year at comparable prices, and 0.1 percentage point higher than that in the first half of the year. Among them, the agricultural output value was 112.467 billion yuan, with a year-on-year growth of 4.9%; The forestry output value was 23.363 billion yuan, up 5.0%; The output value of animal husbandry was 70.586 billion yuan, up 4.4%; The fishery output value was 120.561 billion yuan, up 4.6%. The output of major agricultural products kept growing. The vegetable output was 10.7864 million tons, up 3.9%; The output of edible fungi was 1.0094 million tons, up 4.5%; The tea output was 386100 tons, up 6.8%; The output of garden fruits was 2.5097 million tons, up 5.9% year on year. The output of agricultural products in Fujian is huge, which is the main source of income for farmers. Ensuring the production and sales of agricultural products is an important basis for stable growth and stability in Fujian. The huge output cannot be fully converted into the income of farmers, and the prices of crops and meat and poultry will fluctuate with the market environment.

As many agricultural products are harvested in many places and marketed at the same time, they lead to overstock of products and blocked sales, which leads to lower sales prices of farmers' products, and the profit growth that farmers can obtain is relatively limited. It is necessary to broaden the distribution channels and production and processing forms of farmers' agricultural products. Online shopping will not only bring changes in the supply channels of farmers' agricultural products. While online shopping increases farmers' sales channels, it also forces farmers to improve the quality of their products and services, and improve their products' ability to meet diversified needs.

The country is constantly exploring policies and ideas to improve the means of production in rural areas, improve the quality of the main labor force, enhance the strength of agricultural organizations, solve rural financing problems, and establish and maintain a good ecological environment. One of the major ways to solve the problem of "agriculture, countryside and farmers" is to improve the quality of fresh agricultural products, understand the problems in the development and sales of fresh agricultural products, and constantly expand the sales of fresh agricultural products. The progress of agricultural science and technology has made important progress for farmers in vegetable planting, poultry breeding and other aspects. The yield per mu of agricultural products such as vegetables and the rate of pigs sold have been greatly improved. Therefore, from the consumer side, we can understand the main considerations of their purchase of agricultural products, explore the main influencing factors of their purchase intentions, and try to understand consumer preferences and their impact on online purchase of agricultural products from the psychological, cognitive and behavioral levels of consumers.

This research article presents a micro-level study of consumers. It is based on an in-depth discussion about intentions to purchase fresh agricultural products online. This is important as an important guideline for the development of farmers, consumers, and the economy in the region. It is of great significance both in practice and in theory to broaden the sales channels of agricultural products through online sales and publicity.

Research Objectives

1. To study and examine the coherence of the model with the empirical data of the model of factors that influence the intention of purchasing agricultural products online in the Fujian province.

2. To develop a model of factors that influence the intention of purchasing agricultural products online in the Fujian province.

Literature Review

Theory of E-commerce of agricultural products

E-commerce of agricultural products refers to a business activity that takes information network technology as a means, the Internet as a platform, and the transaction of agricultural products as the center. E-commerce of agricultural products is the embodiment and component of agricultural modernization and informatization. The development of e-commerce for agricultural products has promoted the transformation of agricultural production, activated the agricultural product market and increased agricultural output value. E-commerce of agricultural products is the embodiment of modern agricultural development towards informatization and organization in the supply and sales links. The level of agricultural informatization reflects the national agricultural development level and potential.

E-commerce of agricultural products refers to the online use of e-commerce in the form of online sales of agricultural products by making full use of the Internet and other technical means under the open network environment of the Internet. It is the product of the transformation of the circulation channel of agricultural products by Internet technology (Liu Dandan, 2022). In addition, a special feedback section of opinions and suggestions is set up in the e-commerce platform, which pays attention to the investigation of online user preferences, consumption process experience and other factors, analyzes and integrates them and feeds them back to agricultural growers to help them continuously improve the scientific nature of agricultural planting, and gradually creates an intelligent agricultural product e-commerce platform based on big data (Yang, 2023).

In recent years, "cultivating new drivers of rural development", "promoting common prosperity of farmers" and "rural e-commerce" have appeared in a strategic document at the same time. The e-commerce industry has launched a plan to help farmers with love, and the publicity of film and television media has been expanded.

Theory of consumer purchase intention

The purchase intention of consumers refers to the tendency of consumers to take shopping action. Online shopping intention is the tendency of consumers to take purchase behavior in the online shopping environment. The discussion on the formation mechanism and important influencing factors of consumers' online purchase intention plays an important role in predicting consumers' actual purchase behavior. In this paper, online shopping intention is defined as the purchase intention of consumers after browsing agricultural products sold online and making judgments based on existing information.

Chen Hang (2020) believed that the individual characteristics of consumers that affect consumers' willingness to buy fresh agricultural products online include gender, age, occupation, education background, income, monthly average consumption, organic fresh food purchase frequency and other factors. Chen Yiying (2020) proved in the survey that shopping experience can affect consumers' online fresh agricultural product purchase behavior by regulating consumer trust. Gong (2023) discussed the influencing factors of consumers' willingness to continue using APP to purchase fresh food from five dimensions of perceived risk. Theoresta et al. (2021) explain the effect of price perception, product knowledge, company image, and perceived value on purchase intention. Yi Wenyan and Xiang Chaoyang (2020)

found through the research on the influencing factors of consumer's ethical purchase behavior of agricultural products that the ethical purchase attitude of agricultural products, group compliance, face awareness, perceived behavior control, and ethical purchase intention of agricultural products play a positive role in the ethical purchase of agricultural products, which means that the revised planned behavior theory has strong applicability in the field of ethical consumption of agricultural products;

Theory of consumer Theory of customer Satisfaction

Customer satisfaction refers to the customer's feelings about the extent to which their explicit, usually implicit or obligatory needs or expectations have been met. Satisfaction is the feedback of customer satisfaction, which is the evaluation of product or service performance and product or service itself; It is a psychological experience to give (or are giving) a happiness level related to the satisfaction of consumption, including the level below or above the satisfaction. Li Xiang (2018) believed that several factors such as pre-purchase expectation, web design, logistics and distribution service, commodity quality and after-sales service would affect consumer satisfaction.

Theory of consumer Theory of perceived risk

The initial concept of perceived risk was extended from psychology by Bauer (1960) of Harvard University. He believes that any purchase behavior of consumers may not be able to determine whether their expected results are correct, and some results may make consumers unhappy. Therefore, consumers' purchase decisions imply the uncertainty of the results, which is the original concept of risk. Chen Yiying (2020), through a descriptive analysis of product and business feature perception, usefulness and ease of use perception, and risk perception, can conclude that in terms of product features, the three items that consumers pay the highest attention to are freshness, quality, and safety.

For traditional shopping, financial risk and product quality risk are important components of risk perception. In online shopping, consumers deal with virtual stores, which have greater uncertainty than traditional stores. In addition, information about the spatial layout, product display, product production and production process of online shopping platform is asymmetric. Therefore, consumers will face financial costs, product quality nonconformity costs, physical costs, psychological costs, social costs, time costs and opportunity costs, which enhance the level of consumer perceived risk. When the perceived risk level is high, consumers can take such risk reduction strategies as guarantee dependence, reliable recommendation, good reputation and supportive information.

Theory of consumer Theory of Perceived Value

The Perceived Value Theory is an important theory in the field of consumer behavior, used to explain how consumers perceive and evaluate the value of products or services in the purchasing decision process. This theory suggests that consumers' value of a product or service is formed based on their perception, expectations, and needs for the product or service.

Xu Xiaopeng (2023) believes that perceived value is divided into two dimensions: practical value and hedonic value, and confirms that it positively affects customer loyalty in the context of smart retail. Lixia Zhang (2023), and combining Maslow's hierarchy of needs theory, divides consumers' perceived value into five dimensions: quality value, economic value, entertainment value, information value and altruistic value.

Conceptual Framework

This research is a research study to understand the main factors that consumers consider when purchasing agricultural products. Based on the e-commerce theory of agricultural products, purchase intention theory, satisfaction theory, perceived risk theory, and perceived value theory. The details are as follows.

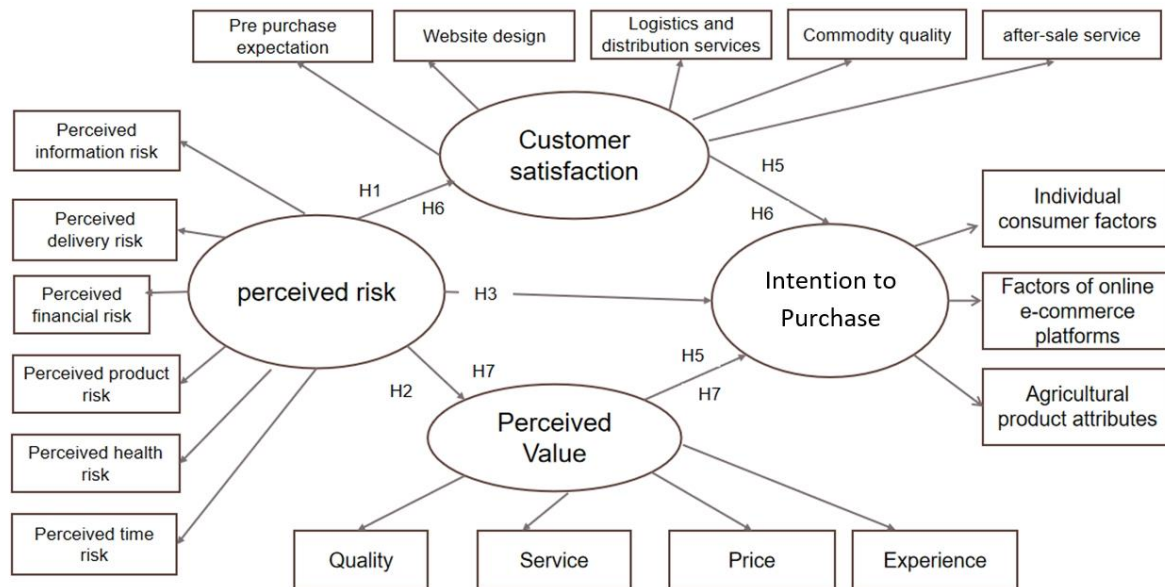


Fig.1 Conceptual Framework

Research Methodology

This study adopts both qualitative and quantitative research methods. The research area is Fujian region. The population is agricultural product consumers in Fujian region. According to the population statistics of Fujian Province in 2022, the population of Fujian Province will reach 41.88 million in 2022. Quantitative research, the sample was agricultural product consumers in Fujian region. They were selected by the snowball sampling method. The number of sample distributions is 380, and 360 valid questionnaires are collected. Qualitative research, the researchers analyzed the results of the collected data and selected 10 groups with experience in purchasing agricultural products in Fujian region using the target interview method. The tools used in the research are 2 types include: 1) questionnaire with 2 parts, for quantitative research. The first part is personal information and the second part is the formal questionnaire section which mainly collects data on various variables. And 2) The interview for qualitative research content design is mainly divided into two parts. The first part briefly asks questions about the basic information of the interviewee. The second part is to ask respondents about the content of online shopping. Collect and organize all respondents' answers; extract, summarize and organize keywords based on the answers. Data collected by the researcher from September 1, 2022 to June 30, 2023. Analyze quantitative data using statistics such as frequency, mean, and standard deviation. Correlation analysis and structural equation modeling to be used in the final analysis of intentions to purchase agricultural products. Qualitative data were used in document research to analyze and synthesize the data and write a descriptive narrative.

Research Results

Objective 1. The results showed that the intention to purchase agricultural products online in Fujian Province is influenced by multiple factors. Firstly, consumers' personal characteristics, such as age, gender, education level, etc., have a certain impact on their online purchasing intentions. Secondly, consumers' cognitive factors, including their awareness of online procurement and the quality of agricultural products, also have an impact on their intentions. Thirdly, consumers' attitudes and behavioral habits, such as their attitudes and experiences towards online shopping, can also have an impact on their intentions. Finally, market environment and policy factors may also have an impact on consumer intentions, such as price levels and the development of agricultural supply chains.

Table 1 Number and Percentage of Respondents by Consumers' Personal Characteristics

Consumers' Personal Characteristics	Amount (N =360)	Percentage
Gender		
Male	173	48.06%
Female	187	51.94%
Total	360	100.0%
Age		
18 years old and under	33	9.17%
19-30 years old	208	57.78%
31~50years old	78	21.67%
50 years old and above	41	11.39%
Total	360	100.0%
Occupation		
Civil Servant/Refer to Civil Service Management/Business Editor	14	3.89%
enterprise staff	105	29.17%
self-employed business	48	13.33%
freelancer	54	15.00%
Student	33	9.17%
Retired	14	3.89%
Unemployed	3	0.83%
Farmer	13	3.61%
Medical staff	31	8.61%
Teacher	41	11.39%
others	4	1.11%
Total	360	100.0%
Educational Level		
Primary school and below	27	7.50%
Junior high school	66	18.33%
igh school or technical secondary school	28	7.78%
Junior college	92	25.56%
Bachelor's degree and above	147	40.83%
Total	360	100.0%
Registered Residence		
Urban registered residence	269	74.72%
Rural registered residence	91	25.28%
Total	360	100.0%
Monthly Income		
3000 yuan and below	101	28.06%
3001-5000 yuan	105	29.17%
5001-1000 yuan	87	24.17%

Consumers' Personal Characteristics	Amount (N =360)	Percentage
10001-15000 yuan	50	13.89%
15000 yuan and above	17	4.72%
Total	360	100.0%
Demand for Purchasing Agricultural Products		
Very high demand	51	14.17%
Large demand	80	22.22%
General demand	164	45.56%
Not very high demand	38	10.56%
Very low demand	27	7.50%
Total	360	100.0%
Watching E-Commerce Live Streaming		
Watched every day	119	33.06%
Often watched	168	46.67%
Occasionally watched	45	12.50%
Rarely watched	23	6.39%
Almost never watched	5	1.39%
Total	360	100.0%
Pickup Distance for Fresh Agricultural Products Express Delivery		
500 meters and below	72	20.00%
501-1000 meters	202	56.11%
1001-1500 meters	62	17.22%
1501-2000 meters	17	4.72%
2000 meters and above	7	1.94%
Total	360	100.0%
Residence in Fujian		
1 year and below	9	2.50%
2-5 years	30	8.33%
6-10 years	58	16.11%
11-20 years	191	53.06%
20 years and above	72	20.00%
Total	360	100.0%

From Table 1, it can be observed that in terms of gender distribution, the proportion of males is 48.06%; The proportion of women is 51.94%. In terms of age distribution, the proportion of people aged between 19 and 30 is 57.78%. In terms of occupational distribution, the enterprise staff who choose enterprises is 29.17%. In the survey of educational level, the proportion of those who choose a bachelor's degree or above is the highest. In terms of the distribution of registered residence, the proportion of urban registered residence selected reached 74.72%. In the terms of monthly income, the proportion between 3001 and 5000 yuan is the highest, accounting for 29.17%. In the demand survey for purchasing agricultural products, 45.56% of the respondents chose the general one. In the survey of demand for agricultural products, it can be seen that the demand for agricultural products is relatively average. The proportion of people who choose to watch e-commerce live broadcasts frequently is 46.67%; The highest proportion. In the interval distance survey of fresh agricultural product express delivery, the proportion of choosing 501 to 1000 meters is the highest. In the survey on the length of residence in Fujian, the proportion of residents choosing between 11 and 20 years is the highest, at 53.06%. The survey group in Fujian has a relatively long residence experience and is highly representative.

**Table 2 Confirmatory Factor Analysis Results of Perceived Risk
when Combining the Mean Values of Variables**

Variables	Initial	Extraction	Factor Loading
Information Risk (IR)			
I think the personal name and address information provided for purchasing agricultural products online may be misused by others	1	.555	.745
I think the email provided for purchasing agricultural products online may be abused by others	1	.570	.755
I believe that the phone/phone numbers provided for purchasing agricultural products online may be misused, resulting in more harassing calls	1	.572	.756
delivery risk (DR)			
I think buying agricultural products online may face the risk of uneven product quality	1	.595	.772
I think purchasing agricultural products online may face the possibility of product damage during transportation	1	.593	.770
I think online purchasing of agricultural products may face the problem of insufficient weight during delivery	1	.627	.792
Financial risk (FR)			
I think paying online may cause my bank card number and password to be stolen	1	.665	.815
I think there may still be areas that require additional payment after online payment	1	.563	.750
I think buying agricultural products online can easily cost more money	1	.590	.768
Product Risk (PR)			
I think purchasing agricultural products online may be fake or inferior	1	.623	.790
I think purchasing agricultural products online may not be consistent with the actual advertised products	1	.631	.794
I think the effectiveness of purchasing agricultural products online may differ from what I expected	1	.484	.696
I think buying agricultural products online may easily be unsuitable	1	.614	.783
Health risks (HR)			
I think purchasing agricultural products online will affect my rest time	1	.595	.772
I think long-term use of electronic devices can cause eye fatigue for me	1	.594	.771
I believe that unsanitary agricultural products purchased online can lead to health issues for me	1	.632	.795
Time risk (TR)			
I think there may be issues with online purchases of agricultural products not being delivered at the scheduled time	1	.584	.764
I think buying agricultural products online is not suitable as the return and exchange time is too long	1	.562	.750
I believe that purchasing agricultural products online may result in non-delivery after payment	1	.620	.787
KMO and Bartlett's Test =0.973 Chi-Square =4750.178, df =171, P-Value = 0.000* < 0.001 Cumulative % of Eigenvalues= 59.310% Initial=1.00 Extraction of Communalities 0.745-0.815			

By importing data into SPSS, KMO and Bartlett sphericity tests were conducted to analyze the validity of the questionnaire. The results shown in Table 2 can be obtained. According to the table, the KMO value of some parts of the questionnaire is 0.973, the chi square value of Bartlett sphericity test is 4750.178, the degree of freedom is 171, and the significance is $0.000 < 0.05$, which indicates that the data has passed the validity test and is

suitable for subsequent factor analysis. The level of factor load coefficient of variables is above 0.5, so the factor load of each factor meets the basic item requirements.

**Table 3 Results of confirmatory factor analysis of customer satisfaction
when using the mean combination of variables to solve the problem**

Variables	initial	Extraction	Factor Loading
Customer Satisfaction			
Do you think the agricultural products purchased online match your expectations	1	.711	.843
Do you think the page design of agricultural product e-commerce satisfies you	1	.729	.854
You are satisfied with the logistics and delivery services of agricultural product e-commerce	1	.673	.820
You are satisfied with the quality of agricultural products purchased online	1	.661	.813
You are satisfied with the after-sales service provided by agricultural product e-commerce	1	.621	.788
KMO and Bartlett's Test =0.877 Chi-Square =885.873, df =10, P-Value = 0.000* < 0.001 Cumulative % of Eigenvalues= 67.896% Initial=1.00 Extraction of Communalities 0.788-0.854			

By importing data into SPSS, KMO and Bartlett sphericity tests were conducted to analyze the validity of the questionnaire. The results shown in Table 3 can be obtained. According to the table, the KMO value of some parts of the questionnaire is 0.877, the chi square value of Bartlett sphericity test is 885.873, the degree of freedom is 10, and the significance is $0.000 < 0.05$, which indicates that the data has passed the validity test and is suitable for subsequent factor analysis. The level of factor load coefficient of variables is above 0.5, so the factor load of each factor meets the basic item requirements.

**Table 4 Confirmatory Factor Analysis Results of Perceived Value
when Combining the Mean Values of Variables**

Variables	initial	Extraction	Factor Loading
Perceived Value			
Do you think the quality of agricultural products purchased online is good	1.000	.665	.815
Do you think the service attitude towards purchasing agricultural products online is good	1.000	.619	.787
Do you think the price of purchasing agricultural products online is more advantageous	1.000	.550	.742
Do you think you have more experience in purchasing agricultural products online	1.000	.656	.810
KMO and Bartlett's Test =0.791 Chi-Square =417.297, df =6, P-Value = 0.000* < 0.001 Cumulative % of Eigenvalues=62.085% Initial=1.00 Extraction of Communalities 0.742-0.815			

By importing data into SPSS, KMO and Bartlett sphericity tests were conducted to analyze the validity of the questionnaire. The results shown in Table 4 can be obtained. According to the table, the KMO value of some parts of the questionnaire is 0.791, the chi square value of Bartlett spherical test is 417.297, the degree of freedom is 6, and the significance is $0.000 < 0.05$, which indicates that the data has passed the validity test and is suitable for subsequent factor analysis. The level of factor load coefficient of variables is above 0.5, so the factor load of each factor meets the basic item requirements.

**Table 5 Confirmatory Factor Analysis Results of Purchase Intention
when Combining the Mean Values of Variables**

Variables	initial	Extraction	Factor Loading
Purchase Intention			
Do you think it is wise to choose e-commerce platforms to purchase agricultural products	1.000	.758	.871
You may choose to purchase agricultural products due to factors such as e-commerce platforms (logistics, after-sales, etc.)	1.000	.729	.854
You will choose agricultural products based on their attributes (origin, freshness, etc.)	1.000	.733	.856
KMO and Bartlett's Test =0.720 Chi-Square =388.947, df =3, P-Value = 0.000* < 0.001 Cumulative % of Eigenvalues=73.999% Initial=1.00 Extraction of Communalities 0.854-0.871			

By importing data into SPSS, KMO and Bartlett sphericity tests were conducted to analyze the validity of the questionnaire. The results shown in Table 5 can be obtained. According to the table, the KMO value of some parts of the questionnaire is 0.720, the chi square value of Bartlett sphericity test is 388.947, the degree of freedom is 3, and the significance is $0.000 < 0.05$, which indicates that the data has passed the validity test and is suitable for subsequent factor analysis. The level of factor load coefficient of variables is above 0.5, so the factor load of each factor meets the basic item requirements.

The results showed that the "Fujian Province Agricultural Products Online Procurement Intention Factors Model", the model provides theoretical support and decision-making reference for the development of agricultural e-commerce and the optimization of agricultural supply chain in Fujian Province.

**Table 6 Statistical Standards Used in the Structural Equilibrium Model (SEM),
Fujian Province Agricultural Products Online Procurement Intention Factors Model**

Indicators	Standard Score	Result	Conclusion	References
Chi-square	-	264.448		
CMIN/df	≤ 3	2.050	qualified	Bollen (1989), Diamantopoulos and Siguaw (2000)
CFI	≥ 0.9	0.971	qualified	Hair et al. (1998), Mueller (1996)
NFI	≥ 0.9	0.946	qualified	Hair et al. (1998), Mueller (1996)
GFI	≥ 0.9	0.925	qualified	Hair et al. (1998), Browne and Cudeck (1993)
IFI	≥ 0.9	0.971	qualified	Hair et al. (1998), Mueller (1996)
RMR	≤ 0.05	0.043	qualified	Diamantopoulos and Siguaw (2000)
RMSEA	≤ 0.08	0.054	qualified	Hair et al. (1998), Browne and Cudeck (1993)

By conducting fitting analysis on the structural equation model and judging whether the questionnaire data is compatible with the research hypothesis model based on fitting indicators, the model fitness results are shown in Table 6. The CMIN/DF is 2.050, and within an acceptable range of less than 5, the value-added fitness statistics CFI, NFI, GFI, IFI are all greater than 0.9, the absolute fitness statistics RMSEA is less than 0.08, and RMR is less than 0.05. Therefore, the degree of fitting of the model is ideal, indicating that the model is acceptable. The specific model diagram construction is shown in Figure 1:

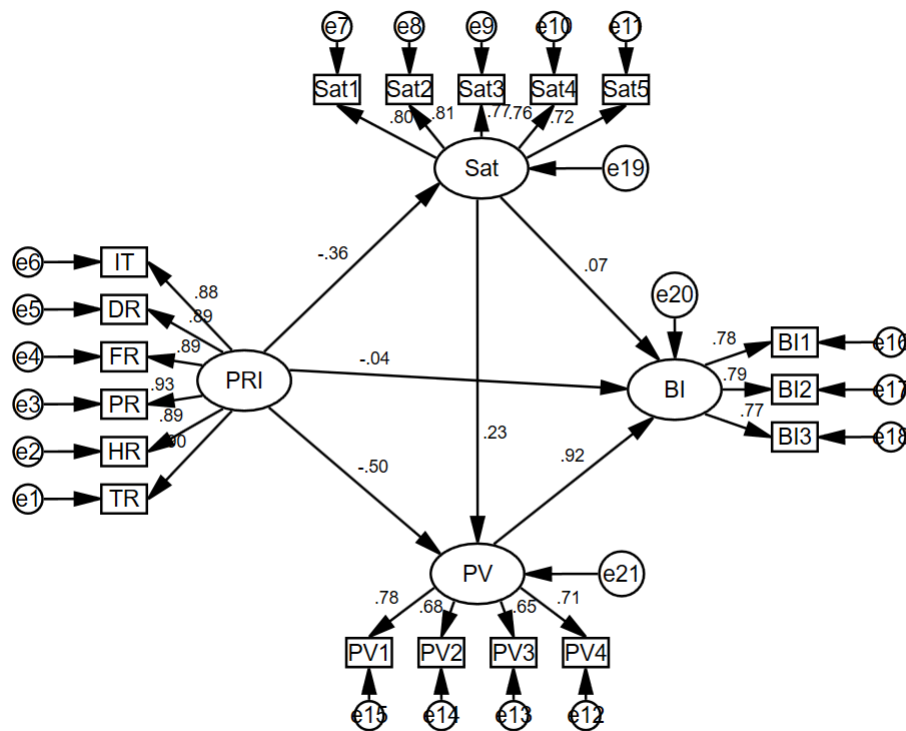


Figure 1 Fujian Province Agricultural Products Online Procurement Intention Factors Model

Objective 2. the conceptual model constructed in this study can be well used to explain the impact mechanism of various factors of perceived risk on consumer purchase intention. The specific research results are shown in Table 7:

Table 7 Hypothesis Test Results

Hypothesis	Hypothesis Content	Results
H1	Perceived risk has a reverse impact on customer satisfaction	Accept
H2	Perceived risk has a reverse impact on perceived value	Accept
H3	Perceived risk has a negative impact on purchase intention	Unacceptable
H4	Customer satisfaction has a positive impact on purchase intention	Unacceptable
H5	Perceived value has a positive impact on purchase intention	Accept
H6	Customer satisfaction has a Mesomeric effect on perceived risk and purchase intention	Unacceptable
H7	Perceived value has a Mesomeric effect on perceived risk and purchase intention	Accept

Discussions

1. In 2015, the Party Committee and government of Fujian Province attached great importance to promoting the development of rural power trade and took a series of effective measures, introducing some practical measures, which led to a good development of rural power trade. According to data from Alibaba Group, Taobao Village in Quanzhou City ranked among the top three in terms of online activity nationwide in 2000. Jinjiang is the third largest city in the top ten Taobao village clusters in China, with 25 Taobao villages. As of 2022, the sales of agricultural products in Fujian Province have continued to rise, and as a major self-selling province of agricultural products, this study explores the factors that have influenced the development of e-commerce in recent years, mainly due to consumers' perceived risks,

which have led to doubts about online agricultural products and fluctuations in consumer satisfaction and purchase intention.

2. In the impact of perceived risk on purchase intention, the coefficient of influence of the variable is -0.044 ($Z=-0.879$, $p>0.05$), so perceived risk will not directly affect purchase intention in this validation model. In this study, the generation of perceived risk does not have a significant positive impact on purchase intention, which is a gap from previous studies. When consumers perceive the potential problems and hidden risks of the purchased product, their level of recognition of the product will change. This change can affect consumers' purchasing behavior, willingness to purchase, and even be reflected in future daily life purchases. The coefficient of influence of perceived value on purchase intention is 0.918 ($Z=11.067$, $p<0.05$), so perceived value will have a very high positive impact on purchase intention. Yang Miao explored consumer purchase intention from the perspective of perceived value, confirming that perceived value has a significant positive impact on consumer purchase intention (Yang Miao, 2023). The confidence interval of Mesomeric effect of satisfaction in the impact of perceived risk on purchase intention is $[-0.065-0.008]$, so satisfaction does not play a mediating role in the impact of perceived risk on purchase intention. The research results of this article indicate that the mediating effect of satisfaction is not valid. In the current consumer market environment, consumers should not only consider the practical value of the product when making purchase decisions, but also comprehensively consider factors such as the purchase process and after-sales service. Among them, risk perception and purchase intention are important factors that affect consumer decision-making. Although perceived risk has a certain impact on consumer purchasing intention, there have been few reports on the effect of satisfaction between these two factors in the past. This article reviews previous literature and the results indicate that perceived risk may indeed affect purchase intention. In a survey conducted by Cong Ying (2022) on the impact of online shopping services on consumer behavior intention, it was confirmed that the higher the online shopping service, the higher customer satisfaction, and the stronger their behavioral intention and repurchase intention. When customers feel that there is a certain risk in purchasing a certain product or service, they will reduce their willingness to purchase, but not all possibilities are inevitable. There are also research results indicating that satisfaction plays a mediating role between cognitive risk and purchase intention. The research results indicate that customers' willingness to purchase is related to their level of understanding of the product, and their level of understanding of the product is closely related to their level of understanding of the product. In this case, it is of great significance for marketing to explore the Mesomeric effect of perceived value in the impact of perceived risk on purchase intention. Scholars have done research in the city's consumer electronics market, and the data collected include customers' opinions on risk, value, and purchase intention. The data was analyzed using regression analysis and other methods.

Knowledge from Research

The research in this article starts from the perspective of perceived risk on consumer purchase intention, and understands that in addition to traditional perceived value, social factors, and personal factors, the independent variables constructed during the consumption process are divided into delivery risk, information risk, financial risk, product risk, time risk, and health risk. The level of risk perception of consumers towards these factors will also have a significant impact on their satisfaction, and it will also affect their purchase intention through their perceived value. This has certain practical significance for online marketing and sales of agricultural products in Fujian Province.

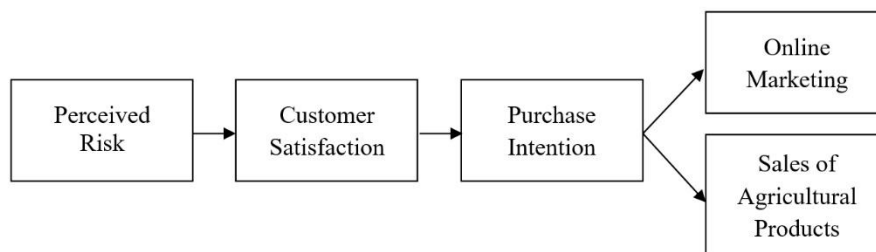


Fig. 2 New Knowledge

Conclusion

1. The results showed that the intention to purchase agricultural products online in Fujian Province is influenced by consumers' personal characteristics, consumers' cognitive factors, consumers' attitudes and behavioral habits, market environment and policy factors. The demand for online purchasing of agricultural products in Fujian Province is relatively moderate, and the proportion of males and females in the purchasing group is relatively balanced. For the group that engages in online shopping for agricultural products, the overall average age is relatively small, concentrated between the ages of 19 to 30. In the surveyed registered residence, the proportion of urban groups who purchase agricultural products online is significantly higher than that of rural groups, and the monthly income level is also lower. Overall, the demand for agricultural products among residents in Fujian Province is relatively moderate, with a large number of people watching e-commerce live broadcasts.

According to the survey results of the article, it can be seen that in the investigation of various factors that affect consumers' purchase intention; In terms of information risk, respondents are more concerned about their phone numbers and mobile phone numbers being leaked; In terms of delivery risks, respondents have significant concerns about uneven product quality; In terms of financial risks, a large portion of consumers believe that they purchase agricultural products online on the platform. Although the product price is lower than offline purchases, there may be additional fees through other channels; In terms of product risk, consumers are most concerned about the low compatibility between products purchased online and themselves; In terms of health risks, consumers believe that online purchasing of agricultural products is the most likely to affect their own health routines; In terms of time risk, consumers believe that the biggest risk of purchasing agricultural products online is the possibility of not arriving at the expected time. Among various factors, there are issues that consumers consider to be more severe, and overall, there is also a difference in the average score between each factor. In the setting of the questionnaire variable, a higher average score indicates a higher level of risk perception among consumers in this aspect. It is evident that information risk, product risk, health risk, and time risk are more likely to have problems for consumers, The high level of perceived risk among consumers indicates that the information, product quality, health and safety level, and logistics time of online shopping will be significant factors affecting consumers' choice of online shopping.

The satisfaction level of consumers in Fujian Province with online agricultural products is relatively lower than average. The rise of agricultural product e-commerce not only opens up the market for farmers, improves product awareness, but also provides consumers with more choice space. At present, the development of agricultural product e-commerce in Fujian Province has shown a preliminary good trend and a strong momentum of development. However, currently, China's agricultural e-commerce still faces problems such as low standardization of agricultural products, high circulation costs, and a lack of talent. From the empirical results of this article, it can be seen that there are indeed issues related to product and

timeliness among the factors that affect consumers' online purchase of agricultural products, and it is also an important reason for low consumer satisfaction.

2. The "Fujian Province Agricultural Products Online Procurement Intention Factors Model", the model provides theoretical support and decision-making reference for the development of agricultural e-commerce and the optimization of agricultural supply chain in Fujian Province. Residents in Fujian Province have a low willingness to purchase agricultural products. Among the respondents, it can be seen that consumers have a similar likelihood of choosing whether to engage in online shopping due to the attributes of agricultural products and the factors of e-commerce platforms. This indicates that both e-commerce platforms and agricultural products themselves will have an impact on consumers' online shopping. In the hypothesis testing of variables in this article, the assumption that the independent variable affects the dependent variable, i.e., perceived risk affects purchase intention, is not valid. The results show that perceived risk does not directly affect purchase intention in model testing. However, from other results of the hypothesis testing in this article, although the independent variable does not directly affect the dependent variable, it will affect the dependent variable through mediating variables and also have an impact. In the interview of this study, in response to the questions raised by more experienced interviewees, the respondents who extracted this part believed that the main problems of online agricultural products were delivery risk, health risk, and product risk, and their satisfaction was relatively moderate.

Suggestions

1) Strengthen supervision and management of e-commerce platforms. Based on the security risks of online shopping e-commerce platforms, this article proposes a new solution. We need to strengthen the supervision of online information and punish illegal activities in accordance with the law. The rapid development of the Internet has brought great convenience to consumers. At the same time, there are also issues such as customer information leakage and account funds being stolen, which affect consumers' willingness to purchase agricultural products online. In terms of negative impacts, regulatory authorities have the responsibility to protect the personal information and financial security of the people, enhance consumer experience, and create a healthier online environment. The online trading market for agricultural products in Fujian Province is currently in its early stages. In order to promote its healthy development, government regulatory departments should provide a better online trading environment for it. Fully leverage the central position of regulatory power to enhance consumer confidence.

2) Improve the safety inspection process of products. In empirical interviews conducted in this article, a large portion of consumers have significant doubts about the health and product risks of online agricultural products, in order to address this issue. Firstly, the industry and government should only pay high attention to providing a detailed supplier database for suppliers and agricultural products. Every process from field to table, from fertilization, pesticide application, picking, excavation, processing, and inspection, should be recorded and certified, and then sent to consumers. The certificate should be issued by a government designated authoritative agency, and a "code card" should be formed so that consumers can use this code to check and confirm. The establishment of a traceable certification system aims to effectively control the quality of agricultural products and provide credit guarantee for the development of e-commerce for agricultural products. Stop the health problems of products at the source of Online shopping.

3) Ensure the speed and quality of logistics. Logistics is a key link in ensuring that agricultural products reach consumers from e-commerce enterprises, and the development of logistics level determines the development status of e-commerce. Therefore, optimizing the

logistics system is the primary task for the development of the entire industry. Agricultural products are different from general commodities, and improving the structure of cold chain logistics is an important factor. The country has introduced many policies to support the development of cold chain logistics, and is gradually improving the infrastructure of cold chain logistics. Major enterprises can invest more funds in cold chain logistics technology, improve the technology and automation level of cold chain logistics, attract more professionals, and strengthen infrastructure construction, establish an automated cold chain logistics system to ensure the quality of agricultural products, and improve logistics efficiency through technological and theoretical innovation. The platform needs to ensure the timeliness and quality of logistics, so that agricultural products can arrive in the hands of consumers on time and without errors, reducing the risks that consumers may face in terms of timely logistics and delivery.

4) Ensuring consumer privacy and payment security. In terms of privacy concerns and secure payments for consumers, the first step is to install proactive virus defense software to detect and eliminate viruses at risk, and use digital encryption technology and other means to improve the security of the agricultural e-commerce financial payment environment and protect the property of consumers. Strengthen cooperation with the banking department, establish a consumer identity authentication system, strengthen consumer identity authentication on the internet, strengthen consumer transaction identity authentication on the internet, strengthen bank identification on the internet, and eliminate network payment security risks. Many online shopping payment platforms introduce third-party payment companies. As external website resources, the addition of third-party payment companies may bring certain risks to consumers' use of the platform. Therefore, it is necessary to strengthen the security management of third-party payment platforms, especially for some weak and established platforms. Develop relevant e-commerce laws and regulations, standardize third-party agricultural product trading platforms, strictly regulate their rights and obligations, control the risks of third-party payments, ensure that relevant departments can be found when implementing responsibilities, and improve the integrity of agricultural product e-commerce transactions.

Suggestions for further research

During the development of this study, various factors influenced it, resulting in many shortcomings. In response to the shortcomings of this study, we propose the following suggestions for further research:

1) The factors that affect consumers' online purchase of agricultural products are worth discussing. This article only discusses the impact of perceived risk on consumers' online purchase of agricultural products. From the perspective of risk, we can discuss more influencing factors in subsequent research.

2) The universality of the sample data needs to be further improved. Due to time and manpower constraints, this study focuses on Fujian Province and investigates the consumer perception characteristics and purchase intentions of online fresh agricultural products. However, in the process of conducting on-site research, the universality of this conclusion in this study needs to be further confirmed due to the limitations of the survey objects and quantity. In subsequent research, it is necessary to appropriately enlarge the sample size and conduct a universal survey of sample selection.

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