

Research on Consumer's Purchase Decision

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285167075@qq.com**Keywords:** Purchase Intention; Consumer Trust; Certification

Abstract. China's economy is in a stage of steady development, and the country has also formulated a transition policy from a manufacturing power to a manufacturing power. This policy has reflected the quality requirements put forward on the one hand with social phenomena and the increasingly affluent conditions in time. This contradicts the quality level of China's manufacturing industry. The standard is an important factor that restricts the product quality assurance process, and whether the role it plays can be recognized by the public and consumers. Therefore, we put forward relevant research questions. Can this standard be used as a signal of product quality to influence consumers' purchasing decisions? If so, whether there are other influencing factors? This study will take the average consumer as the research object, and see the criteria used in the purchase of daily necessities as the premise. Based on this, this study explores whether consumer's cognition of product execution standard affects their purchase decision behavior. If there is a correlation, we will further study whether consumers' differences of standard cognition will affect consumers' trust in product quality, thus affecting consumers' purchasing decision behaviors. This study verifies whether trust plays a mediating role, whether communication behaviors between enterprises and consumers affect consumers' standard cognition and trust of product quality. Based on the literature review and empirical analysis, this study will provide suggestions and countermeasures on how to effectively use product standards and how to make standards more acceptable to consumers.

1. Introduction

In the past decade, China's manufacturing industry has witnessed sustained and rapid development, with its overall scale greatly enhanced and comprehensive strength continuously enhanced. It has not only made important contributions to domestic economic and social development, but also become an important force supporting the world economy. With the steady and rapid development of China's economy, people's consumption level is also growing day by day. Consumers have changed from a single consumption model to a selective diversification, and their demand for product quality is also increasing day by day. The existence of standards can standardize the production of enterprises, to ensure the quality of products. Consumers can further

understand the product's information by understanding the specific content of the product's implementation standards, and have a clearer understanding of product quality, further eliminating the phenomenon of information asymmetry between buyers and sellers in today's market. Therefore, the standards implemented by the product are considered as a product quality signal.

In the early exploratory attempt, this study used daily necessities as the sampling range, and used towels and toothpaste as sampling targets to sample in 10 offline supermarkets of different grades. We found that the standards implemented by the two types of products existed in the three categories of national standards, industry standards and enterprise standards. Relevant enterprises mainly implement national standards, a few implement industry standards, and domestic product use enterprise standards are particularly rare. In addition, it has also been found that the proportion of enterprises in the category of sampled products is only about one quarter of that of standard-setting units. There are three main characteristics about consumers' perception of standards: standards are a guarantee of quality, but they are not representative of high quality; standards are not intuitive enough; information between standards and consumers is not equivalent.

Because the standard is not intuitive, the consumer does not receive the quality signal of the relevant product delivered by the standard. So how to make it easier for consumers to clearly accept the quality signals of such products, thus affecting consumers' decision-making? Through interviews, we learned that invisible product information enables consumers to trust product quality and form a communication process between consumers and products. Therefore, with trust and communication as a breakthrough, it is possible to explore whether the standard can play a role similar to certification after adding the two factors of trust and communication, so that the quality signal issued by the standard is more easily accepted by consumers.

2. Literature review

2.1 Quality signal transmission

Quality signal refers to the excellent signal characteristics of goods or brands in the product market under the condition of information asymmetry. In the existing literature, domestic and foreign scholars have used signal transmission theory to conduct a lot of research on food safety issues. Studies have shown that more quality information disclosure[1]and stronger quality signal transmission[2]can effectively reduce food safety information asymmetry and achieve the separation of high-quality food enterprises and low-quality food enterprises. Regarding the form of food quality and safety signals, there are common prices, labels, brands, and green food certification. Regarding certification, Fan[3]pointed out that the quality certification system, as an institutional arrangement to reduce transaction costs, is not only an aid to the transmission of quality information, but also an effective screening mechanism. Consumers' identification and utilization of quality signals is essentially a process of confirming and rationally selecting the quality reputation and quality level of different products. The premise of quality signals is that consumers can accept and recognize the intrinsic value of signals.

2.2 Certification

Product certification can be used as a quality signal for the product, and the nature of the certification is similar to that of the standard, which is the role of ensuring product quality. The existing research theoretically points out that because of the different degree of information asymmetry of different products, the demand for signal transmission is also different. Products with search attributes typically use advertisements, word of mouth, and consumer's active observations to convey information. Products that trust attributes primarily pass information through brand names and images and authoritative certifications[4]. Freitas and Bottega[5]found that in a duopoly market with incomplete information, production trust companies use product quality certification strategies to obtain excess profits. Studies have also shown that companies' choices for certification vary based on product and demand. For products with high quality and safety risks, mandatory certification is required, such as food and pharmaceutical industries. At the same time, companies can choose a higher level of standard certification to distinguish them from other products. Chen et al.[6]believe that because the green certification originates from the authority of the government or a third party, it will increase the trust of consumers in obtaining green certification companies and products to a certain extent, thus affecting consumers' purchasing attitudes and Willingness.

2.3 Consumer trust

In sociology, psychology, economics, marketing, and other disciplines, there are different descriptions of trust. There are different understandings in a particular research context. Some scholars define trust from both the intention and the behavior, and some scholars define trust from the perspective of cognition and evaluation. Trust is the willingness to rely on trusted trading partners in the sense of risk[7]. Trust is the result of interaction between subject and object, subject and social environment, and social environment and object[8]. Rousseau et al. (1998)[9] summarize the commonalities of concepts and summarize a definition for trust: Trust is a state of mind based on positive expectations of the other party's actions or intentions, including Be prepared to accept the intention of injury. High consumer trust will form a behavioral will[10]. A higher level of trust means that the customer has confidence in the particular business, is able and willing to rely on the business, and forms a positive willingness to the business and its products and services.

2.4 Information communication

Information communication is an important concept in management theory. Research in communication focuses on psychology, education, clinical medicine, and management. Communication is the transmission and understanding of meaning, the transmission of information from the sender to the receiver, the process by which the information is transmitted by the sender or the receiver between individuals or groups, and the understanding is obtained by means of a certain symbol carrier. Lu[11]proposed that communication is divided into two parts: information exchange and interpersonal interaction, which will affect the online shopping intention. Lu et al.[12]suggested that communication has a significant effect on reducing the uncertainty of purchasing decisions.

3. Research model and hypothesis

In the literature review and preliminary investigation, we found that the standard has a similar function to certification, affecting consumers' understanding of products in the form of quality signals. The higher the consumer's awareness of the standard, the deeper the understanding, the more likely it is to purchase. Conversely, the lower the awareness, the lower the likelihood of a willingness to purchase.

The trust from the trust object can be divided into retailer trust and environmental trust[13]. The consumer's trust in the retailer's character includes integrity, ability and friendliness[14]. Sparks[15] believes that online trust is positively affecting consumers' decision-making behaviors. Trust will increase consumers' favor for businesses, reduce their perceived risk, and increase their willingness to shop.

Trust can influence cooperation, communication and information sharing, and improve the quality of information exchange. In terms of customer trust and customer repurchase intentions, Aurier et al. [16] proposed that trust is the concept of relationship marketing theory. Morgan and Hunt[17] suggest that a party will emerge when it has confidence in the reliability and honesty of its counterparty. Trust as a mediator has been identified in research in the fields of social psychology, management, and organization. For certified products, consumer trust has an incentive to purchase.

The definition of communication is quite complicated. From the perspective of information communication, communication serves as a carrier of information and plays a role in the transmission and understanding of meaning. In e-commerce, there are two main ways for communication between consumers and businesses. One is the exchange of information between consumers and corporate customer service personnel. The other is the interaction between consumers and corporate websites. In the actual transaction process, communication between consumers and corporate customer service personnel is very necessary. It can not only dispel people's doubts, but also make people feel the care of humanity. The quality of this communication directly affects the trust of consumers in the enterprise. Yao and Li [18] studied the connection path between corporate website communication and consumer trust. The empirical results show that the communication of corporate websites strengthens consumers' understanding of enterprises, which in turn significantly affects consumers' trust in enterprises.

Therefore, we propose five hypotheses:

H1: Consumer's standard cognition will positively influence purchase intentions.

H2: Consumer trust will positively influence the purchase intention.

H3: Trust mediates the consumer's standard cognition in the process of purchasing intention.

H4: The degree of communication between the business and the consumer will positively influence the consumer's standard cognition.

H5: The degree of communication between the business and the consumer will positively affect consumer trust.

Through the above literature review and related research hypothesis, this paper constructs a research model, and it is presented in Figure. 1.

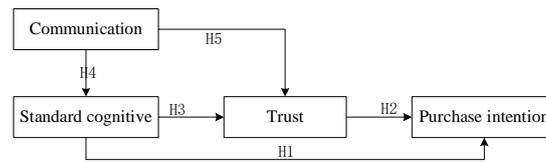


Figure.1 research model

4. Research methodology

4.1 Measures

This study used questionnaires to collect data. The questionnaire involved a total of 4 variables and 15 items. Each question is based on the 7-point Likert scale, and the respondents fill in the truth according to their actual situation ("1" means completely disagree, "7" means full agreement).

According to previous research[19][20][21], this study measures trust from four dimensions: product, commitment, information reliability, and honesty. Four items of communication were both adapted from Cai and Jun[22]. Three items of standard cognition were both adapted from Yang[23], Wang et al.[24]; Four items of willingness to purchase were both adapted from Dodds et al.[25]and Grewal et al.[26]. The specific questions are shown in Table 1.

Table 1. Questionnaire items and sources

Variabl e	Items	Source
Trust (M)	M1 I believe that the standards implemented by the company's products are advanced.	Gefen(2000)
	M2 I believe that companies can actually produce products in accordance with published standards.	Doney and Cannon(1997)
	M3 I believe that the product-related standard information published by the company is true.	Morgan and Hunt(1994)
	M4 I believe that corporate adoption standards are centered on consumer interests.	
Commu nication (Z)	Z1 I think it is necessary for companies to publish information on product implementation standards.	Cai and Jun (2003)
	Z2 I think it is necessary for companies to publish information inquiry channels for their product standards.	
	Z3 I think it is necessary for the company to set the department for consumers to further understand the product standard information.	
	Z4 I think it is necessary for companies to provide product quality implementation results query channels.	
Standar d cognitio n (X)	X1 I can quickly find the identity of the product execution standard.	Yang(2008)
	X2 I think product standards can best reveal product quality levels.	Wang(2007)
	X3 The product standard information gave me a very deep impression.	
Purchas e intentio n (Y)	Y1 I believe that the standards implemented by the company's products are advanced.	Dodds and Monroe (1991)
	Y2 I believe that companies can actually produce products in accordance with published standards.	
	Y3 I believe that the product-related standard information published by the company is true.	Grewal et al(1998)
	Y4 I believe that corporate adoption standards are centered on consumer interests.	

4.2 Sample and Data Collection

A total of 450 questionnaires were distributed in this study. The sampling areas were Hangzhou and Shanghai, including 90 offline questionnaires and 360 online questionnaires. Excluding the invalid questionnaires with too many missing values and non-conformity, the study finally got 200 valid questionnaires, and the effective questionnaires recovered 44.4%. Table 2 is a descriptive statistical result of a valid study sample.

Table 2. Descriptive analysis of the sample

Information		Number	percentage	Information		Number	percentage
Gender	Male	85	42.5%	Education	Below undergraduate	29	14.5%
	Female	115	57.5%		Bachelor	149	74.5%
Age	18-25	136	68.0%		Master or above	22	11.0%
	26-35	49	24.5%	Monthly Income	< 2K	34	17.0%
	36-45	6	3.0%		2K-5K	94	47.0%
	46-55	9	4.5%		>5K	72	36.0%

5. Results

5.1 Reliability Analysis

Reliability analysis is used to measure the reliability of sample results. In this study, each variable was tested using the Cronbach's α value. The results show that the Cronbach's α of trust, communication, standard cognition and purchase intention are 0.936, 0.873, 0.898, and 0.873, respectively, which are all greater than 0.7. Therefore, we believe that the statistical results of the questionnaire data have high reliability.

5.2 Structural validity

This study conducted KMO and Barlett Test of Sphericity to test whether the design of all items was reasonable. Table 3 showed that the KMO values of the four variables of trust, communication, standard cognition and purchase intention were 0.825, 0.878, 0.722, and 0.693, respectively, which met the minimum requirement of 0.6. At the same time, exploratory factor analysis (EFA) was performed on the data by SPSS19.0. The Bartlett spherical test values of each variable were 788.564, 1146.13, 383.469, and 513.816, that is, all the variables passed the significance test (Sig=0.000). Therefore, the item design has a high structural validity.

Table 3. Structural validity analysis

Variable	KMO	Barlett Test of Sphericity	Sig.
M	0.825	788.564	0.000
Z	0.878	1146.13	0.000
X	0.722	383.469	0.000
Y	0.693	513.816	0.000

The factor load factor is used to measure the correspondence between the factor and the question, and the variance interpretation rate value is used to indicate the level of information extraction. The results show that the factor load factor is greater than 0.7, and the initial 15 questions are all retained. The cumulative interpretation rate of variance is 84.459%, 92.699%, 83.262%, 72.734%, respectively.

5.3 Model evaluation

The sample data used in this study were all from the questionnaire survey. The regulatory and dependent variables in the study are latent variables, so a further statistical model of the cross-section potential variables can be discussed using the factor scores of the variables. This study used a multi-level linear regression model to analyze the degree of interpretation and results of the model based on the addition of variables at different levels.

5.3.1 Mediating effect analysis

Table 4 summarizes the regression results of the model. The results showed that the model 1 was obtained by using standard cognition as an independent variable and purchasing intention as a dependent variable for linear regression. Standard cognition had a 63.3% explanatory power for purchasing intention. Model 1 passed the F test ($F=342.202$, $P<0.05$), and there was a linear relationship ($Y=2.135 + 0.649X$), and the model was highly significant ($P<0.01$). Standard cognition has a positive impact on the willingness to purchase.

Based on Model 1, Model 2 adds trust variables. Standard cognition and trust explained 68.8% of the willingness to purchase, and there was a significant linear relationship between the three variables ($Y=1.798+0.415X+0.302M$). Trust has a positive impact on the willingness to buy.

In Model 3, standard cognition is used as an independent variable and trust as a dependent variable. The explanatory power of standard cognition for trust was 60.3%. The model passed the F test ($F=301.334$, $P<0.05$), and there was significant correlation with a correlation coefficient of 0.775. Standard cognition has a significant positive impact on trust.

In summary, the mediation variable M acts as a partial intermediary. When standard cognition has an impact on purchase intentions, it can also have a partial effect on purchase intentions through trust.

Table 4. Mediating effect analysis

Model	Model 1		Model 2		Model 3	
	B	Standard error	B	Standard error	B	Standard error
Constant	2.135* *	0.192	1.798* *	0.186	1.115	0.244
X	0.649* *	0.035	0.415* *	0.052	0.775 *	0.045
M			0.302* *	0.052		
R ²	0.633		0.688		0.603	
Adjusted R ²	0.632		0.685		0.601	
F	342.202**		216.925**		301.334**	
Independent variable	X		X、M		X	
Dependent variable	Y		Y		M	
* p<0.05 ** p<0.01						

5.3.2 Direct effect analysis

As shown in Table 5, there was a significant positive correlation between standard cognition and communication (F=53.645**, P<0.05; P=0.000, less than 0.01), the regression coefficient of communication was 0.649, and there was 21.3% explanatory power. There was a significant positive correlation between trust and communication (F=36.812**, P<0.05; P=0.000, less than 0.01). The regression coefficient of communication was 0.555, and there was 15.7% explanatory power.

Table 5. Direct effect analysis

Dependent variable		Non-standardized coefficient		Standardization coefficient	t	p	VI F	R ²	Adjusted R ²	F
		B	Standard error	Beta						
X	Constant	1.2	0.562	-	2.136	0.034*	-	0.213	0.209	53.645**
	Z	0.649	0.089	0.462	7.324	0.000**	1			
M	Constant	1.718	0.58	-	2.962	0.003**	-	0.157	0.153	36.812**
	Z	0.555	0.091	0.396	6.067	0.000**	1			

* p<0.05 ** p<0.01

6. Discussion

Through the model validation analysis, the five hypotheses of this study are supported. The path coefficients are shown in Figure.2, from which the following conclusions can be drawn.

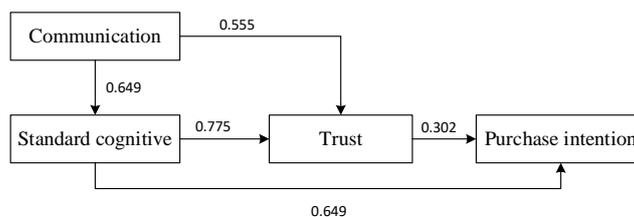


Figure. 2 Results of structural modeling analysis

6.1 Standards can be used as a quality signal to influence consumer decisions.

Through the regression analysis of the two variables, the coefficient of the relationship between the standard cognition and the purchase intention is 0.649. Consumers' perceptions of standards have a positively-related impact on their consumption decisions. That is, the higher the consumer's understanding of the standards that the products perform and the standards themselves, the more they can influence their decisions in the consumption process.

6.2 Consumer trust in the business can influence consumers' decisions in the buying process.

Through the regression analysis of the relevant variables, the relationship coefficient of trust to purchase

intention is 0.302. Consumers' trust in product companies can positively influence consumers' purchasing decisions. The higher the consumer's trust in product companies, the more they can influence consumers' decision-making in the purchase process.

6.3 Trust plays a mediating role in the impact of standard cognition on consumer purchasing decisions.

This study confirms that trust plays a mediating role in consumer purchasing decisions. The trust described in this study refers to the trust of consumers in the company to which the product belongs. By understanding the standards, the trust between the consumer and the producer is established. The standard that the producer is executed is of the current level and is trusted by the producer. The standard is for the benefit of the consumer and can be produced in full compliance with the relevant standard documents to ensure that the products produced have a high level of quality.

6.4 Communication can influence consumers' perceptions of standards.

Through the regression analysis of related variables, the relationship coefficient of communication variables to standard cognition is 0.649. The communication between consumers and enterprises can positively influence consumers' understanding and understanding of standard knowledge. The higher the degree of communication between consumers and enterprises, the more they can influence consumers' understanding of standards.

6.5 Communication can influence consumers' trust in the business.

Through the regression analysis of related variables, the coefficient of relationship between communication variables and trust is 0.555. The communication between consumers and enterprises can positively influence consumers' trust in enterprises. The higher the degree of communication between consumers and enterprises, the more they can affect consumers' trust in enterprises.

7. Limitations and future research

7.1 Geographical factors

The basis of the research material, the product of the basic areas in Hangzhou, Zhejiang province, based on relevant standards, so geography has bigger limitation, while Hangzhou trade frequently but can't represent a country as a whole, so the product due to the restrictions of geographical factors on the standard sample unable to gain access to some local products and that the relevant type of product standard is not comprehensive summary analysis, in the rigour is weak.

7.2 Age factor

In addition, the number of surveys in the 20-25 year old interval was too large, and the number of people surveyed at other age levels was relatively small, which led to a one-sided comparison of the results of the survey. Although the 20-25 age group has become a new force in today's online consumption, in fact, the main consumer groups in today's society are over 35 years old, so investigating the views of the standards

above the age group and the standards for them Whether the purchase decision has a certain degree of influence is very representative and research significance.

7.3 Rich theoretical dimension

The dimensions of the four variables in this study can be more abundant. For example, the dimension division of communication variables only forms communication for enterprises to pass information to consumers. This is a unilateral transfer of information. In the later research, the dimension can be enriched, because the communication is two-way, and the relevant dimensions of the consumer's information to the enterprise can be included, and the construction of the variable is more rigorous and reasonable. It may be possible to find communication in new variables to regulate the trust between consumers and standards.

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