

# The Influential Factors on Consumer Purchase Intention for Organic Food in China: A Case Study on Bei Da Huang Organic Food Company

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## ABSTRACT

The outbreak of COVID-19 has had a great impact and change on people's lives. It has also caused people to pay attention to food health. As a new industry in the era of environmental protection, organic food has gained the favor of consumers. This study investigated the factors that influence consumers' intention to purchase organic food, such as safety, food value, reviews and positive emotions, and the relationship between them. The data were collected by a survey of 77 consumers. Structure Equation modeling was used to analyze the data and test the hypothesized relationship. This paper aimed to find what factors affect consumers' purchasing behavior and how they do that. It was concluded that food value, safety, comment, and positive emotions have different degrees of influence on consumers' purchase intention, and this conclusion has macroscopic implications that can be widely applied to other aspects.

**Keywords:** Organic food, COVID-19, Customer Purchase intention, China, Structure Equation modeling

## 1. INTRODUCTION

With the development of society, food safety has become a more and more common concern for consumers worldwide. The outbreak of the COVID-19 epidemic in early 2020 has had multiple impacts on health, society, and the economy and profoundly affected our lives. Consumers have reached a new level of concern for their health. Organic health food production, as a new industry in the era of environmental protection, not only meets people's needs for pollution-free, safe, high-quality, and nutritious food, but also plays a positive role in promoting the protection of resources, improving the ecological environment, and maintaining sustainable agricultural development.

In recent years, organic food has been promoted in more than 100 countries, and the area and number of organic food growers are increasing year by year. The development of organic food can help solve a series of problems caused by modern agriculture, such as severe

soil erosion and deterioration of land quality, environmental pollution, and energy consumption caused by the heavy use of pesticides and chemical fertilizers. It also helps to develop the economy, which has great potential for development. China's organic food consumer market is expanding and growing, and green and organic food is still in the development stage, with a broad market prospect.

Bei Da Huang Organic Food Company (BDH) is a modern integrated enterprise that closely combines science, agriculture, industry, and trade and is committed to developing the organic food industry. BDH Group has invested its strength to launch high-quality, nutritious organic food to meet the national demand for health under the COVID-19 epidemic. BDH Group is representative of our research as the leading organic food production company in China.

In 2019, Kia et al. investigated health from a consumer perspective and analyzed the negotiation of their consumption preferences and the rationale behind them [1]. Three different consumer understandings of

health can be identified—health as purity, health as pleasure, and a holistic view of health [1]. In addition to that, Héctor et al., while investigating which variables influence consumers' intention to purchase hamburgers, found that food value and positive anticipatory emotions definitely affect the perception of brand attitudes and thus influenced Mexican consumers' purchase intentions [2]. In 2021, Ali et al. found that purchase behavior was related to health awareness and price policy and that personal attitudes and consumer trust were not significantly associated with students' organic food purchasing behavior [3]. And in 2021, Liu et al. found that consumers' environmental awareness significantly influenced their attitudes toward organic food, and this elevated attitude toward organic food promoted their organic food purchases [4]. However, the researchers only analyzed some simple factors, such as food value or brand in these studies. There were many complex factors they did not consider, and they also lacked the analysis of the changes in factors influencing consumers' organic food purchases in the context of the COVID-19, which shows that the previous study was not comprehensive.

This study aims to understand which factors influence consumers' purchase of healthy organic food in the context of the COVID-19. Although there are many studies on green organic food, it is still recommended to verify their impact and explore other possible factors in further studies. The sudden outbreak of the COVID-19 at the end of 2019 has affected manufacturers, suppliers, consumers, and others in the global food system to varying degrees. Notably, there were some changes in attitudes towards green organic food. On the one hand, the coronavirus crisis has led consumers to seek healthier options to boost their immunity, and demand for organic food is increasing [5]. On the other hand, the attitude towards the brand may affect consumer purchase intention. This study took the BDH Group as an example. BDH Group was firmly established as the No. 1 agricultural brand in China in 2020, with 11 leading enterprises under its umbrella, possessing strong market competitiveness and influence. During the epidemic, BDH adjusted its marketing strategy in a timely manner, organically combining offline supply, online marketing, and brand promotion to promote the development of organic food, which is highly representative.

This research was based on the purpose of explaining the purchase intention in four main premises. Firstly, the food value of organic food may influence consumers' choices, including food price, packaging, and taste. Secondly, whether organic food is healthier may affect the willingness to purchase. Thirdly, the safety of organic food may have an impact on consumers' purchases. Fourthly, the reputation, reviews, and brand awareness of organic food may also affect consumers' willingness to purchase.

This study will first analyze consumers' purchasing behavior from a theoretical perspective, then verify it from an empirical perspective by collecting data through questionnaires distributed to consumers. This paper will investigate whether factors like price, packaging, brand and consumers' gender, age, financial situation and psychological characteristic will influence the purchasing intention and the relationship among them by using SEM method.

## **2. LITERATURE REVIEW**

A large and growing body of literature has investigated the factors that influenced consumers to purchase all kinds of food and how they did that.

### **2.1. Purchasing intention**

Purchasing intention represents the extent to which consumers are willing to purchase goods. It will affect consumers' purchasing behavior.

### **2.2. Health**

In 2019, Kia Ditlevsen et al. showed that health is an essential motivation for buying organic food products. They investigated health from the perspective of consumers and analyzes negotiations of and justifications behind their consumption preferences based on a focus group study conducted in Denmark in 2016. In the study, three different understandings of health can be found when consumers explain their preferences for organic products: health as purity; health as pleasure, and a holistic perspective on health [1].

### **2.3. Food value**

Then, in 2019, Güney Osman Inanç et al. used conditional logit and mixed logit models and found that consumers are willing to pay ₺0.76 more per egg for organic eggs than conventional eggs. The research is the first study that analyses the motivations and the willingness of Turkish consumers to purchase organic eggs using a choice experiment design and regression models [6].

### **2.4. Positive emotions**

However, in these studies, people only found what factors influence the purchasing of organic food. They do not analyze the relationship among these factors. Therefore, structural equation modeling was used to test the hypothesized associations. In 2019, Héctor Hugo Pérez-Villarreal et al. found food values and positive anticipated emotions absolutely impact the attitude toward the brand, which affects the purchase intention of the Mexican consumers when they investigated which variables influenced the consumer's intention to

buy hamburgers. The result is that the positive anticipated emotions impact stronger than food values. The best way to get a purchase intention is toward the attitude of the brand rather than the attitude toward eating a hamburger [2].

## **2.5. Safety**

In 2021, Ali Hazem et al. also used SEM to analyze and found purchasing behavior is positively related to health consciousness and negatively influenced by pricing policy, while personal attitude and consumer trust had an insignificant association with students' buying behavior of organic food [3].

However, the authors only analyzed some simple factors like the food value or the brand in these studies. There are many complicated factors they did not take into consideration [3]. Then, in 2018, Dovile et al. assumed that consumers' choice of functional food could also be driven by less health-related hedonic or social motives, such as a tendency for indulgence vs. self-control or the motivation to impress and show off. After investigating, they found that conspicuous consumption and susceptibility to descriptive normative influence are positively associated with functional food distinctiveness evaluation. In contrast, perceived self-control motivation is negatively associated with such evaluation [7]. Besides, in 2021, Liu et al. explored the relationships between the integration capability of consumers' weak signals, health consciousness, environmental protection consciousness, and organic purchases under the mediating role of their attitudes towards organic food. With SEM, they found that consumers' environmental protection consciousness significantly affects their attitudes towards organic food, and this enhancement of consumers' attitudes towards organic food promotes their organic purchases. The integration capability of consumers' weak signals has a positive impact on their attitudes towards organic food. Consumers' attitudes towards organic food significantly mediate the effects of their environmental protection consciousness and the integration capability of weak signals on organic purchases. Consumers' food safety concerns significantly affect their organic purchases [4].

Moreover, there are some more studies based on other models. In 2019, Ninh et al. used the theory of Reasoned Action to examine several key factors that affect consumer attitude and intention with respect to purchasing functional foods in an emerging market economy [8]. They found while health consciousness and subjective norm significantly enhance consumers' attitudes towards purchasing functional yogurts, the perceived price of functional yogurts exerts a negative impact on such attitudes. Subjective norm and attitudes appear to be key predictors of consumers' intentions to buy functional yogurts [8]. Then, in 2021, Nunes Fernando et al. used convenience sampling and the best-

worst scaling method to find the motivational attributes of consumers' decisions regarding the consumption of organic products. As a result, they found the dominance of credence attributes and egoistic motivations on organic consumption [9].

Therefore, this study will investigate whether factors like price, packaging, brand and consumers' gender, age, financial situation, and psychological characteristic will influence the purchasing intention and the relationship among them by using the SEM method.

## **3. METHOD**

### **3.1. Research design**

This study is based on the performance of questionnaire surveys involving consumer participation, and then the data is integrated and analyzed through structural equation modeling (SEM). Previously, Héctor Hugo Pérez-Villarreal et al. used SEM to examine the impact of the food values, emotions anticipated, and attitudes on purchase intention, and confirmed the existence of a strong relationship between attitudes toward the brand on purchase intention by way of anticipated positive emotions in the consumer of fast-food restaurant [2]. Ali Hazem et al. used SEM to explore the relationships between health, price, attitude, and consumer purchase intention. They analyzed and found that purchase intention is positively correlated with health and negatively correlated with price, while attitude influence is not obvious [3]. Liu et al. used SEM to explore the relationships between consumers' weak signals, health consciousness, environmental protection consciousness, and the integration capability to integrate organic purchases. The results showed that consumers' environmental protection consciousness significantly affected their attitudes towards organic foods, promoting their purchase of organic foods [4]. This study examined the influence of organic food values, including packaging, raw materials, taste and price, safety, reviews and reputation of organic food, and positive anticipatory sentiment on consumers' purchase of healthy organic food. The proposal was to use structural equation modeling, which includes a mix of factors and composites. Structural equation modeling was capable of dealing with multiple dependent variables simultaneously. In this case, the research intent was to know the predictor variable and to identify possible drivers. Therefore, the literature reports' independent variables as important predecessors of purchase intention were also included [2].

### **3.2. Data collection**

The data collection tool in this study is a questionnaire. This questionnaire includes 21 researcher-made questions that a five-point Likert scale

(from 1= “completely disagree” to 5= “completely agree”) is used. The data collection was mainly based on consumer surveys conducted by Chinese college students. Most of the participants were 18-24 years old. This study designed a questionnaire divided into two parts.

The questionnaire was prefaced with an explanation that its purpose was to understand the behavior of consumers to purchase organic food. The first part of the survey was basic information, including the following five classification variables: gender, age, monthly average consumption level, education level, and marital status. The second part of the survey was the main part, which aimed to investigate the factors that affect consumers to purchase green organic foods. The questionnaire survey was conducted on the questionnaire star platform.

**3.3. Data analysis**

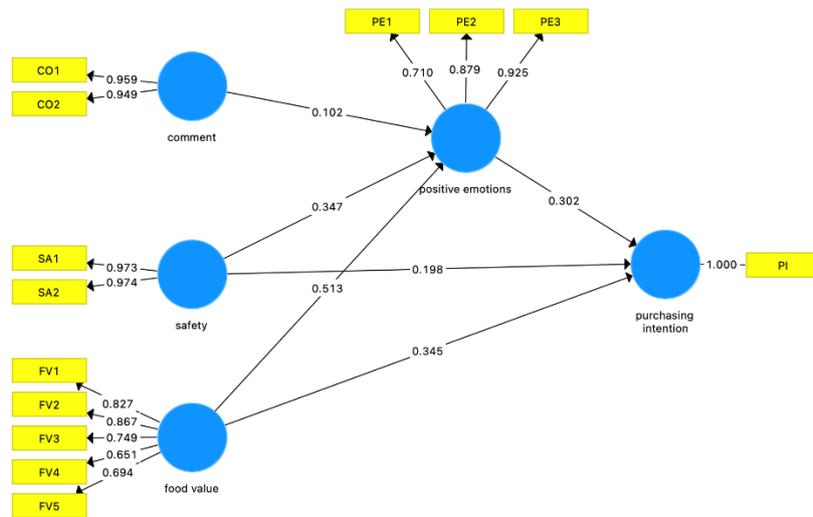
In the study, the capacity of the sample data is 77. In the questionnaire it collected, 51 people were women,

and 26 people were men. The general age range is 18-24 years old. Most people are unmarried people with monthly consumption levels of 1501-3000 yuan. Most of them have a bachelor’s degree or below.

The study used structural equation modeling (SEM) to test the conceptual model with Smart PLS 3.0 software. According to Streukekens and Leroi-Werelds [10], this study used partial least squares (PLS) with a 10,000-subsample bootstrapping procedure and the same software to know if the relationship was supported or not with the results. Before analyzing the data, the data collection and integration were collected by the questionnaire star platform. The SEM model was then used to verify the relationship between the different influencing factors and consumer purchase intentions.

**4. RESULTS**

In the study, latent variables are set as safety, comment, food value, positive emotions, purchase intention. Then PLS is used to analyze the SEM module, and the result is shown in Figure 1.



**Figure 1** Path diagram of factors influencing purchasing intention

To get confidence in this model, reliability and construct validity testing were also calculated.

The previous study showed Cronbach’s alpha coefficient was accepted for all the constructs, having a value greater than 0.7, and the rho\_A value was reflected regularly if this index was larger than 0.7. The composite reliability (CR) values under 0.7 indicated a deficiency of internal consistency reliability. The AVE of each construct was above the tolerability value of 0.5 (see Table 1) [3].

**Table 1.** Validity testing

	Cronbach’s Alpha	rho_A	CR	AVE
comment	0.902	0.911	0.953	0.910
food value	0.817	0.830	0.873	0.581
positive	0.790	0.812	0.970	0.711

emotion				
purchasing intention	1.000	1.000	1.000	1.000
safety	0.945	0.945	0.973	0.948

In addition, the model proved to have satisfactory reliability with convergent and discriminant validity. After this step, it was necessary to test the discriminant validity of constructs. According to Fornell and Larcker, with the correlation coefficient of the two dimensions less than the square root of the AVE, two dimensions were understood to have discriminant validity because of AVE > 0.5(see Table 2) [3].

**Table 2.** Association testing

	Comment	Food value	Positive emotion	Purchasing intention	safety
comment	0.954				
food value	0.578	0.762			
positive emotion	0.620	0.809	0.843		
purchasing intention	0.506	0.725	0.732	1.000	
safety	0.641	0.685	0.763	0.665	0.973

The study confirmed the hypothesis with path coefficient, standard error, t-value, and p-value (see Table 3). It was concluded that all the hypotheses planted were supported and positive to predict the purchase intention with a relatively high level, even though the study observed some differences about each association. Then R-square of purchasing intention and positive emotions are 0.603 and 0.742. Therefore, the model is acceptable.

**Table 3.** Path coefficients

	o	Mean	Standard error	t-value	p-value
comment--positive emotion	0.102	0.103	0.074	1.377	0.169
food value--positive emotion	0.513	0.521	0.111	4.627	0.000
food value--purchasing intention	0.345	0.358	0.118	2.918	0.004
positive emotion--purchasing intention	0.302	0.295	0.145	2.085	0.038
safety--positive emotion	0.347	0.334	0.112	3.083	0.002
safety--purchasing intention	0.198	0.194	0.142	1.389	0.165

So, there is a strong relationship between food value and positive emotions. Besides, safety can also influence positive.

**5. DISCUSSION**

This study forms the rational and emotional parts to connect them with different attitudes to predict purchase intention. Rationality encompasses food value, safety, and comment, while emotion refers to positive anticipated emotions. The study used structural equation modeling (SEM) to test the conceptual model with Smart PLS 3.0 software. The development model was constructed on an amalgamation of items, concepts, models, effects, and principles about two parts: functional and emotional [3]. This model was also composited about a series of research studies around four exceptional areas: (1) food value, (2) safety, (3) comment, and (4) positive emotions. All of these are done to better analyze customers' intention to buy organic food.

According to the Result in Figure 1, it is clear that all the path is significant, but they are not all positive effect. Food value, safety, and comment each have an effect on positive emotions, which in turn indirectly affects customer purchase intention. Food value has the strongest positive effect on positive emotions, safety has a strong effect, and comment has a weak effect on positive emotions. In addition, food value, safety, and positive emotions also directly influence purchasing intention, with food value having the strongest degree of influence on purchasing intention and safety having the weakest degree of influence. From the above relationships, it can be concluded that food value, safety, comment, and positive emotions all contribute to some extent to customer purchase intention, which is consistent with the hypothesis proposed in this study.

In 2019, Güney Osman Inanç and Giraldo Luca analyzed the motivations and the willingness of Turkish consumers to purchase organic eggs [6]. In 2021, Ali Hazem et al. used SEM to analyze and found purchasing behavior is positively related to health consciousness and negatively influenced by pricing policy [3]. Besides, Héctor Hugo Pérez-Villarreal et al. found food values and positive anticipated emotions absolutely impact the attitude toward the brand, which impacts the purchase intention of the Mexican consumers [2]. Compared with previous studies, the present study also analyzed food value, safety, comment, and positive emotions as factors influencing customer purchase intention. It was demonstrated that all four variables are associated with customer purchase intention and have different levels of influence on customer purchase intention. Therefore, the conclusions from this study have macro-level implications and can be widely applied to other areas.

For this study, there are some limitations in using structural equation modeling to analyze the factors that influence customers to purchase organic food from BDH Group. The collected data from the questionnaire of customers' influence factors on purchasing BDH Group organic food cannot include all age groups of customers. The questions asked cannot fully express what is wanted to investigate, so the data are not representative. Secondly, due to the incompleteness of the data, there is no analysis of the interrelationship between comment and customer purchase intention, even though these two variables are intuitively related.

In future studies, the questionnaire should be designed rationally, and the questions asked should be consistent with the influencing factors and directions of the study analysis. Only in this way can the data analysis conducted from the collected data be more accurate and objective, have macroscopic significance and be widely used. The model used in the analysis process should also be more reasonable and complete to minimize errors and improve accuracy.

## 6. CONCLUSION

In the context of the COVID-19, the study and research on BDH Group and Green Organic Food have revealed an RQ on what factors can influence consumers to purchase healthy organic food. Furthermore, this study has used theories such as Güney Osman Inanç et al., who used regression modeling to find that consumers are willing to pay more for organic eggs. Héctor Hugo Pérez-Villarreal et al. who found that food value and positive expectation definitely influence attitudes towards brands and, therefore, consumer purchase intentions. Ali Hazem et al. used SEM analysis to find that purchase behaviour is positively related to health awareness, negatively influenced by price policy, etc., and applied the PLS algorithm procedure to verify this.

Research has shown that all variables have an impact on consumer purchase intentions to some extent. Food value, safety, and reviews all have an impact on positive emotions, which indirectly influence consumers' purchase intentions. Of these, food value had the most important effect on positive sentiment, safety had a stronger effect on positive sentiment, and reviews had a weaker impact on positive sentiment. In addition, food value, safety, and positive emotion also directly influence purchase intention, with food value having the strongest degree of influence on purchase intention and safety having the weakest degree of influence. The analysis of RESULTS suggests that for the BDH group, it should improve in safety and continue in food value.

Experts have focused more on price, positive consumer sentiment, and consumer attitudes towards food products in previous studies. This study, however, analyzed not only food value and positive emotions but also safety, reviews, and word of mouth as factors influencing consumers' purchase intention. All four variables studied in this research are related to consumer purchase intention and have different levels of influence on purchase intention. In previous studies, experts have found that consumers do not place a high value on food safety. This theory could realistically have a negative impact on the market, making it less important. This has led to some observations for the BDH Group and the development of green and organic food. Managers should consider all aspects to improve the market and increase consumer trust and willingness to buy.

This study still has limitations. First of all, it only focused on the Chinese market and its consumers. The small amount of data collected in the questionnaire led to a concentration of consumers in the 18-24 age group, and the questionnaire questions did not fully convey what was intended to be investigated. Secondly, due to the limitations of the amount of data, no specific analysis of the interrelationship between reviews and consumer purchase intentions was carried out. Finally, the brands

selected for this study were also limited to local Chinese brands. In the context of the impact of the COVID-19 and the perceived importance of health, whether the findings obtained in this study are the same or similar for other countries around the world needs to be further researched and explored. This research needs to take into account factors such as the different cultural backgrounds of different countries and the different levels of exposure to the COVID-19. Therefore, in future studies, the paper should be more comprehensive in the considerations.

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