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Research Article

Analysis on Influencing Factors of Consumer Trust in E-Commerce Marketing of Green Agricultural Products Based on Big Data Analysis

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In order to avoid consumers' irrational purchase behavior due to e-commerce marketing and affect the normal operation of e-commerce market, this paper analyzes the influencing factors of consumer trust in e-commerce marketing of green agricultural products based on big data analysis. We construct the influencing factor model of consumer trust and analyze the types of influencing factors of consumer trust. The K-means clustering method is used to collect the relevant data of green agricultural products' e-commerce marketing and consumers' irrational purchase behavior in the big data environment. The influencing factors of consumers' trust in green agricultural products' e-commerce marketing are analyzed with the professional degree, credibility, and attraction of e-commerce marketing as independent variables; consumers' purchase behavior as dependent variables; and consumers' purchase emotion as intermediary variables. The experimental results show that the designed method has certain reliability and good effectiveness, and plays a positive role in irrational purchase behavior.

1. Introduction

In the big data environment, network information has the characteristics of a large amount of data and high dimensions [1, 2]. There are important changes in people's shopping methods [3]. People have changed from traditional shopping methods to online shopping methods. Online shopping can meet the personalized shopping needs of consumers. It has the characteristics of diversity and portability [4], and has become the main shopping way in human life. Purchase behavior is a complete process composed of a series of links and elements, in which purchase decision is at the core; whether the decision is correct or not directly determines the occurrence mode, direction, and utility of purchase behavior. Under big data analysis, human beings can obtain information quickly and intuitively [5, 6]. Among them, big data analysis refers to the analysis of largescale data, which can be summarized as five Vs, including large volume, velocity, variety, value, and veracity. With the

rapid development of the We-media platform in the network, social software widely exists in people's life, and e-commerce marketing capital has become an important way of capital. E-commerce marketing is a new way for people to buy products [7]. With the rapid rise of e-commerce marketing industry, the concept of online red economy came into being. When consumers buy products, they are vulnerable to the influence of online red economy [8] and cannot judge the product quality through a mature consumption view. In the big data environment, consumers' shopping methods are vulnerable to bad atmosphere [9, 10], which makes consumers form a large number of irrational buying behaviors. Therefore, it is very important to study the influencing factors of consumer trust in e-commerce marketing of green agricultural products.

Relevant scholars have put forward many studies. Reference [11] studies the impact of culture and moral ideology on consumers' moral concept of online retailers and its impact on their loyalty. The main purpose of this study is to

develop a comprehensive model and empirically test it. This model examines the antecedents and results of consumers' moral cognition of online retail. Quantitative methods were used to collect data from 797 consumers, and Amos 22.0 was used to evaluate the association between potential variables. The results show that uncertainty avoidance and power distance are the key drivers of idealism, while masculinity and individualism are the key predictors of egoism. Idealism is negatively correlated with consumers' cognition of e-retail ethics, while egoism has a positive impact. Finally, there is a positive correlation between customers' cognition of e-retail ethics and customer loyalty. The impact on practitioners and scholars is discussed. Reference [12] pointed out that due to the emergence of Indian online store model, consumers' views on physical store discounts have changed. The end-ofquarter sale has always been one of the most important longterm promotions/discounts for physical retailers and consumers in India. However, since the emergence of the online retail model in India, consumers now have a wider range of choices and can buy products at discounted prices. It is worth noting that consumers' views on physical store discounts are expected to change as online stores in India take product discounts as one of the key drivers of consumers' purchases. This change in consumer views has put most physical retailers in trouble in India, and they are slowly losing market share to online retailers. In this study, the author attempts to investigate the evidence, mode, scale, importance, and the impact of this change on discounts from the perspective of stakeholders, and translate the research results into suggestions to enable physical retailers to design appropriate promotional activities. Although some progress has been made in the above research, the research under the background of big data analysis is not enough to deeply analyze the analysis and impact of the economy on consumers' irrational purchase behavior. Therefore, taking big data analysis as the research background, this paper analyzes the influencing factors of consumers' trust in e-commerce marketing of green agricultural products. First, the model of influencing factors of consumer trust is constructed, and the types of influencing factors of consumer trust are analyzed based on the model.

2. Analysis on Influencing Factors of Consumer Trust in E-Commerce Marketing of Green Agricultural Products Based on Big Data Analysis

Consumer behavior is dominated by motivation, so consumers' purchase behavior should first analyze consumers' needs and desires. The main factors affecting consumer behavior are as follows:

- (1) *Product Factors.* It includes the characteristics of green agricultural products, the price of green agricultural products, the convenience of shopping, safety and reliability, etc.
- (2) Psychological Factors. Consumers' personality psychology, including consumers' needs, motivations,

- interests, ideals, beliefs, world outlook, and other personality psychological tendencies, and ability, temperament, personality, and other personality psychological characteristics, are internal factors that affect consumers' behavior. Consumers are affected by many main psychological factors in purchase decisions. It mainly includes motivation, perception, learning, beliefs, and attitudes.
- (3) *Income Factor*. The economic environment of marketing mainly refers to the external social and economic conditions faced by enterprise marketing activities. In particular, it mainly refers to social purchasing power. Generally, the factors that affect the purchasing power level include the following three aspects: consumer income, consumer expenditure, and household savings and consumer credit.
- (4) *Social Factors.* Social factors refer to the influence of people around consumers on them, among which reference group, family, and role status are the most important.
- (5) *Cultural Factors*. Culture refers to the complex of values, morality, ideals, and other meaningful symbols established by human beings over lifetime. Culture is the basic factor that determines human desires and behaviors.

2.1. Model of Influencing Factors of Consumer Trust. For a long time, a large number of high-quality green agricultural products have stopped in the traditional business model, with low brand sales and poor influence [13, 14]. In order to enhance brand influence and promote enterprise development, it is imperative to do advanced marketing with the help of brand social responsibility. Social responsibility makes consumers emotionally dependent. Only by establishing the loyalty between agricultural products and consumers can we recommend products with the highest recognition. While undertaking social responsibility, we can make intelligent recommendations according to the consumption decision-making behavior and complete the transformation of competition [15]. We build a model of influencing factors of consumer trust, as shown in Figure 1:

As shown in Figure 1, the influencing factor model of consumer trust is mainly divided into three parts: information collection, decision-making behavior analysis, and intelligent recommendation calculation [16, 17]. The information collection module mainly classifies consumer behavior habits and basic information, the decision-making behavior analysis module mainly classifies consumer information and behavior, and the intelligent recommendation calculation module recommends the classification results to consumers through different channels.

2.1.1. Part I: Information Collection Module. It is the entrance of the recommendation tie line to collect consumer information and submit it to the intelligent recommendation calculation module [18, 19]. First, we determine the

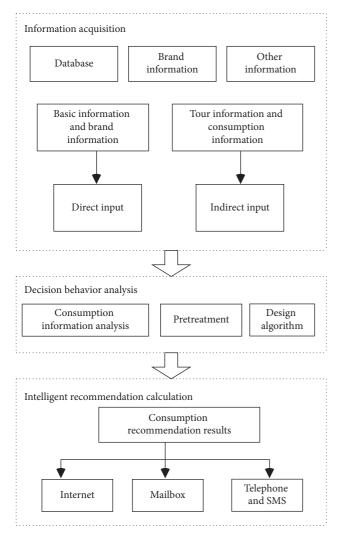


FIGURE 1: Model of influencing factors of consumer trust.

information sources. There are many new information sources for green agricultural products, including brand and other information in addition to consumer information. After classifying the information sources, there are mainly two input methods.

- (1) Direct Input. It is the main way for the system to extract information and the highest recommendation basis of value type. It mainly comes from consumption information, social evaluation, brand sale strategy records, etc. In the design of the influencing factor model of consumer trust, relevant information should be recorded in detail to ensure the integrity and accuracy of first-hand data, so as to better analyze consumers' preferences and needs.
- (2) *Indirect Input*. It is the unlimited mining of consumer information through data mining or artificial intelligence means to analyze consumer psychology.
- 2.1.2. Part II: Decision Behavior Analysis Module [20]. We feedback the score and evaluation of green agricultural products. For the intelligent recommendation model

designed in this paper, most of the recommended objects are users who pay attention to green agricultural products, so they directly output in the form of SMS to feedback the impact of social responsibility of green agricultural products on brand sales [21, 22].

2.1.3. Part III: Recommended Calculation Module. The core factor affecting consumer trust is the analysis of the consumer trust module [23, 24]. In order to cooperate with the next calculation, the next choice is judged according to the data representation model. The recommendation results are generated from the data results generated by the decision behavior analysis module, as shown in Figure 2.

In the process of intelligent processing, the recommended results are quickly transmitted to a variety of situations, which is shown in Figure 2. The basic principle is that consumers not only care about the purchased goods but also consider the possibility of other goods. Consumers will regret and rejoice at other results when purchasing goods, and try to avoid the probability of regret [25, 26]. Consumers' decision-making behavior is affected not only by their own behavior but also by other factors, that is, imitating neighbors' decision-making behavior. Individual imitation of others is related to personality characteristics. The greater the similarity between them, the higher the probability of imitation; on the contrary, the lower the similarity, the smaller the imitation probability [27].

2.2. Types of Influencing Factors of Consumer Trust. Based on the framework of the above intelligent recommendation module, the decision variables affecting the consumption of green agricultural products include cost price and sale price. The decision variables affecting agents are retail price, as shown in Figure 3, which is the analysis of consumers' choice of purchase channels in an intelligent recommendation.

In order to avoid the unreasonable situation of informal channel sales, assuming that the brand responsibility value in the green agricultural product market obeys the uniform distribution condition [28], the consumption types of influencing factors of consumer trust are shown in Figure 4:

As shown in Figure 4, consumers, whose trust influencing factors are T1 and T2, consider purchasing the product from the agent. When the consumer judges the value of the product as positive, the consumer affirms the value and purchases the product; T3 and T4 prove that consumers do not agree with the product [29]. Similarly, T5 and T6 consumers consider buying from direct sale channels, and consumers intend to buy the product.

In order to make brand social responsibility affect consumers' purchase intention, it is necessary to fully grasp the impact of corporate social responsibility on consumers' purchase decision-making process [30, 31]. The influence of brand social responsibility on consumers' purchase intention can be divided into three stages: purchase cognition, information collection, and purchase decision. If brand social responsibility becomes the standard of consumer decision-making, it will affect consumer willingness. First of all, we should pay attention to the social responsibility of

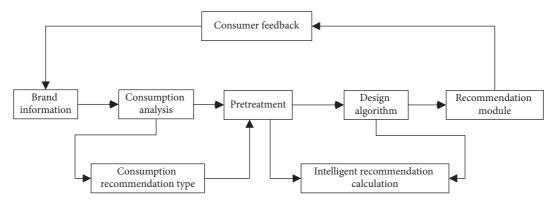


FIGURE 2: Composition framework of intelligent recommendation module.

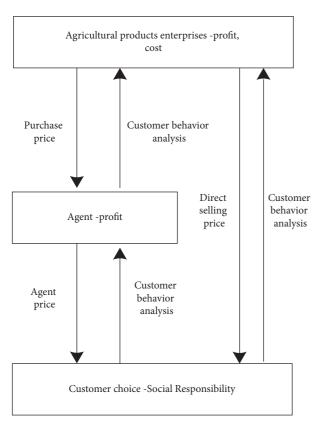


FIGURE 3: Analysis of purchase channels.

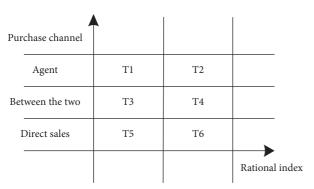


FIGURE 4: Types of influencing factors of consumer trust.

consumers to purchase products [32]. If consumers' satisfaction after purchasing the agricultural product is not lower than the expected value, consumers will still buy the brand in the future, and social responsibility will have a long-term impact on consumers' purchase intention.

2.3. Data Collection of Consumers' Irrational Purchase Behavior in Big Data Environment. In order to further study the influencing factors of consumer trust in green agricultural products' e-commerce marketing based on big data analysis, the big data collection of consumers' irrational purchase behavior is the data basis of the research. The K-means clustering method is used to collect the big data related to the e-commerce marketing of green agricultural products and consumers' irrational purchase behavior; among them, the K-means clustering algorithm is an iterative clustering analysis algorithm. Its step is to divide the data into k groups, randomly select k objects as the initial clustering center, then calculate the distance between each object and each subclustering center, and assign each object to the nearest clustering center. The cluster center and the objects assigned to them represent a cluster. Each time a sample is assigned, the cluster center of the cluster will be recalculated according to the existing objects in the cluster. This process will continue to repeat until a certain termination condition is met. The expression of the K-means clustering objective function is as follows:

$$X_{FZ} = A_a \times D_l \times (H_{\text{max}} - H_{\text{min}}). \tag{1}$$

In formula (1), A_a and D_l , respectively, represent the classification weight index and the collected vector in the big dataset of green agricultural products' e-commerce marketing and consumers' irrational purchase behavior; $H_{\rm max}$ and $H_{\rm min}$, respectively, represent the maximum search radius and minimum search radius for collecting big data of online red economy and consumers' irrational purchase behavior.

In the process of big data acquisition of green agricultural products' e-commerce marketing and consumers' irrational purchase behavior, the attenuation of the big data acquisition channel has second-order homogeneity [33, 34]. The expression of clustering global kernel function of green agricultural products' e-commerce marketing and consumer

irrational purchase behavior big data acquisition obtained by spatial beamforming method is shown in formula (2), in which the spatial beamforming method can be divided into an adaptive algorithm based on direction estimation according to different objects.

$$G = X_{FZ} + \sum_{i=1}^{m} B_i \times J_K.$$
 (2)

In formula (2), J_K represents the number of samples with the same variance and mean value, and B_i represents the sampling amplitude of the big data mixed kernel function of initial green agricultural e-commerce marketing and consumers' irrational purchase behavior. The updated expression for collecting big data of green agricultural products' e-commerce marketing and consumers' irrational purchase behavior is as follows:

$$J_k = G + (L_{\text{max}} - L_{\text{min}}). \tag{3}$$

In formula (3), $(L_{\rm max}-L_{\rm min})$ represents the threshold value range of collecting big data of green agricultural products' e-commerce marketing and consumers' irrational purchase behavior under the big data environment, $L_{\rm max}$ represents the maximum value, and $L_{\rm min}$ represents the minimum value. In order to improve the convergence speed of big data collection related to green agricultural products' e-commerce marketing and consumers' irrational purchase behavior in the big data environment, the fitness function is added to the big data collection process, and the punishment learning in the process of collecting big data related to green agricultural products' e-commerce marketing and consumers' irrational purchase behavior is realized through the fitness function.

Consumers' purchase emotions can reflect the rational degree of consumers' consumption behavior. When consumers shop rationally, their purchase emotion is usually firm; when consumers shop irrationally, their buying emotions are usually accompanied by regret and hesitation [35]. Consumers' purchase emotion is controlled by personal will. As one of the emerging economic models, e-commerce marketing of green agricultural products can transmit information in a low-cost way across space and time. E-commerce marketing has rapidly developed in a short time [36] and has become one of the important economic modes in China. There are many advantages in the development of e-commerce marketing, which has high development potential and growth space.

We establish the research model of green agricultural products' e-commerce marketing and consumers' irrational purchase behavior under the big data environment, as shown in Figure 5.

The professionalism, credibility, and attractiveness of e-commerce marketing are important variables for the online red economy to drive consumers' purchase behavior in the big data environment. The above three characteristics are set as independent variables of the research model of green agricultural products' e-commerce marketing and consumers' irrational purchase behavior in the big data environment. We set consumer purchase as the dependent

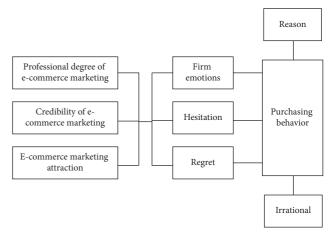


FIGURE 5: Research model of e-commerce marketing and consumers' irrational purchase behavior.

variable of the model and consumer purchase emotion as the intermediary variable, so as to complete the analysis of influencing factors of consumer trust in green agricultural products' e-commerce marketing based on big data analysis.

3. Experimental Analysis

From the perspective of big data analysis, based on the above action mechanism and related concepts, we set the e-commerce marketing of green agricultural products as the independent variable and the influencing factors of consumers' trust as the dependent variable. According to the marketing means used by green agricultural products' e-commerce marketing platform merchants in the network, the corresponding research hypotheses are put forward. This hypothesis is based on the fact that consumers' purchasing behavior is not only influenced by the enterprise and product, but also by the location and industry of the enterprise. These factors at different levels will form consumers' trust at different levels: consumers' trust in the product/enterprise at the lower level and consumers' trust in the social environment at the higher level. These two levels of trust can have a direct impact on consumer purchasing behavior. The setting of research assumptions is shown in Table 1.

According to Table 1 in hypothesis 1, for example, in the big data analysis perspective, its advantage is in green electricity marketing of agricultural products, the price discount is a more common way of. E-commerce can directly sell the normally sold green agricultural products to consumers by reducing the product price and can take various forms, such as direct price reduction. Economically, when the sellers of green agricultural e-commerce offer discounts to their products, the price of the products will be lower than their psychological maximum price, and a consumption surplus will be generated to increase the amount of consumers' shopping.

Modeling and testing are one of the commonly used analysis methods of multivariate statistics. Combining factor analysis and path analysis, this paper discusses the

Hypothesis number	Independent variable	Dependent variable	Influence relationship
Hypothesis 1	Commodity discount intensity	Degree of irrational consumption of consumers	Positive correlation
Hypothesis 2	Platform full reduction activity		Positive correlation
Hypothesis 3	Limited time second kill		Positive correlation
Hypothesis 4	Consumption mode of advance payment		Negative correlation

TABLE 1: Research hypothesis setting table.

relationship between variables, and obtains the direct and indirect effect of independent variables on dependent variables. The construction equation model is effective and needs to be established on the basis of theory and experience. If the model needs to be modified, it should also be adjusted according to relevant theories. The observed variables in the measurement model can obtain data through direct measurement, while the potential variables need to be abstractly defined through the characteristics formed between the observed variables. There must be at least two observed variables to estimate a potential variable in the model. The e-commerce marketing variables of green agricultural products can be expressed by formula (4)as follows:

$$Y_x = D_F \times S + \theta. \tag{4}$$

In formula (4), D_F represents the coefficient matrix of the relationship between D and F, S represents the external potential variable, that is, the dependent variable, and θ represents the measurement error. Then, the structural model expression is as follows:

$$C_X = H_G \times Y_F + \lambda. \tag{5}$$

In formula (5), C_X represents the observed variable, H_G represents the regression coefficient, and λ represents the residual value. Through the construction of the structural equation model, more variables can be calculated at the same time, and all dependent variables can be taken into account, so as to improve the consistency between the model and practice. In addition, the structural equation model allows covariance between independent variables, thus allowing the existence of high-order factors. The analysis process of the constructed structural equation model is shown in Figure 6.

The assumption of causality in Figure 6 needs to have a certain theoretical basis; otherwise, the results of the model may be quite different from the actual situation, so that the model has no popularization value. The empirical research objects are randomly selected in the form of voluntary and recruitment. The research objects of empirical analysis are 1000 in total. The basic information of consumers is shown in Table 2:

As can be seen from Table 2, the proportion of male and female consumers is about 40% and 60%. In terms of age, most of the research objects are young people aged 18–30 years old. In addition, from the perspective of occupation, the selected research objects involve all walks of life, specifically including students, office workers, housewives, and other social workers, among which office workers account for 45%; the income level of 2000–6000 yuan is the majority, accounting for 64%. We collect the consumption data of the research object in daily life and double 11 online festivals,

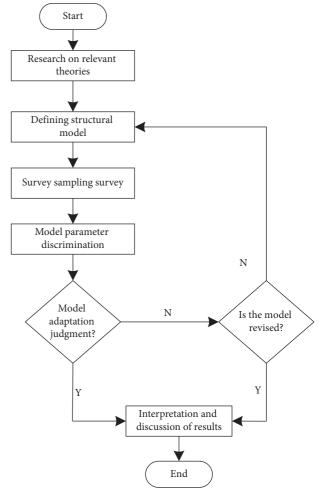


FIGURE 6: Flowchart of the structural equation model analysis.

respectively, store the data according to time, and count the amount of irrational consumption of researchers and the reasons for irrational consumption behavior.

Trust is an important index to measure the degree of reliability. The Cronbach coefficient is set for the reliability test. This coefficient is a method to measure the reliability of the scale or test. It measures the internal consistency of the test according to a certain formula. As an index of reliability, it overcomes the shortcomings of the partial halving method. It is the most commonly used reliability analysis method in social science research. The calculation formula is as follows:

$$\alpha = \frac{N_n \times R}{(N_n - 1) \times R}.$$
 (6)

Essential information	Category	Number of samples	Percentage (%)
C 1	Male	400	40
Gender	Female	600	60
	18-30 years old	518	51.8
Age	31~45 years old	359	35.9
	Over 45	123	12.3
	Student	350	35
Occupation	Office worker	450	45
-	Housewife	200	20
	Below 2000 yuan	200	20
Monthly income level	2000~6000 yuan	640	64
•	6000~10000 yuan	160	16

TABLE 2: Basic statistics of consumer samples.

In formula (6), α represents the coefficient calculation result, and N_n and R represent the assumed quantity and average correlation coefficient of the scale, respectively. Effectiveness refers to the approximation between the observed value and the actual value of the variable in the study. The higher the effectiveness, the more consistent the observed value is with the actual situation of the tested object. Through the statistics of multiple sample data, the analysis results of research reliability and effectiveness are obtained, as shown in Table 3.

It can be seen from Table 3 that the Cronbach coefficient obtained from the test is greater than 0.6, that is, the reliability of the scale is good. When the variable is 1, the Cronbach coefficient is the highest, which is 0.911, and the reliability evaluation grade is excellent. The empirical research results have a certain degree of reliability and good validity.

By counting the order frequency of the research object in the e-commerce marketing platform of green agricultural products during the presale period, we can detect the influencing factors of consumer trust. Generally speaking, the presale marketing of online festivals is mostly set one week before the official festival. The statistical results of online shopping frequency are shown in Table 4.

As can be seen from Table 4, the number of orders placed by 2 or less people in the research sample before and during the advance payment is 412 and 350, respectively, while the number of orders placed after the advance payment is 315. In 3–5 orders of purchase frequency, the number of people before, during, and after the advance payment period is 301, 275, and 265, respectively; in order frequency 6–10, the number of people before, during, and after the advance payment period is 150, 190, and 148, respectively; the advance payment of online festivals increases the number of irrational purchases of consumers to a certain extent; that is to say, this marketing mode plays a positive role in irrational purchases.

4. Discussion and Analysis

In the big data analysis environment, in order to avoid the irrational purchase behavior of consumers, we realize the win-win situation between consumers and sales enterprises,

TABLE 3: Reliability and validity test results.

Research variables	Cronbach's alpha	Reliability evaluation
1	0.911	Excellent
2	0.859	Good
3	0.854	Good
4	0.840	Good
5	0.744	Preferably
6	0.712	Preferably
7	0.695	Preferably
8	0.685	Preferably

and avoid the irrational purchase behavior of consumers, and the proposed strategies are as follows.

4.1. Strictly Control the Quality of Green Agricultural Products and Improve Consumers' Purchase Confidence. In the big data environment, the quality of green agricultural products includes product safety, integrity of appearance, freshness, edible taste, etc., which will affect consumers' confidence in businesses. Most of the products sold on the fresh e-commerce website are green agricultural products, mainly including fruits, vegetables, meat, seafood, eggs, and dairy products. Therefore, some pesticides will remain in the growth process of agricultural products. In addition, additives are likely to be used in the primary processing of products, which will endanger the lives and health of consumers. Therefore, consumers attach great importance to product quality. Merchants must strictly control the quality and safety of products and provide the safety certificate of the origin of green agricultural products and the quality and safety certificate of relevant inspection departments. In advertising, we should focus on the publicity of product safety, good health, and green nature, which is conducive to reducing consumers' perceived risk and improving consumers' sense of trust.

4.2. Enrich Product Categories, Expand the Depth and Width of Categories and, Meet the Needs of Consumers to the Greatest Extent. Some green agricultural products have no sale source offline but can be provided online, which is one of the important reasons why consumers choose to buy online. The rich categories include not only fresh food

Online shopping order frequency	Before the advance payment period	Advance payment period	After the advance payment period
Number of persons with 2 orders and below	412	350	315
3–5 orders	301	275	265
6-10 orders	150	190	148
11-15 orders	80	99	135
15–20 orders	50	60	85
More than 20 orders	7	26	52

TABLE 4: Statistical results of online shopping order frequency.

nationwide but also overseas products, which can greatly meet consumers' pursuit of product categories. While enriching product categories, we also need to do a good job in product portfolio design, so as to expand the width and depth of product categories, and strengthen warehouse management and cost control on the basis of enriching categories.

4.3. Improve Cold Chain Logistics and Improve the Quality of Distribution Services and Logistic Services. Logistic services have a positive impact on consumers' trust. High-quality logistics and distribution services can win consumers' trust and support. Green agricultural products are different from other products. Due to the short preservation period, it requires faster logistics and transportation speed and ensures product quality. In order to ensure the product quality, there must be a certain temperature control in the whole supply process of green agricultural products to ensure that the products can enter the market completely within the shelf life. In addition to improving the cold chain logistic system, we should also realize the whole process of supervision and control to improve the logistic efficiency and quality. In addition, the product sale adopts the presale mode to determine the consumption demand in advance and provide distribution to consumers in time after the supply period, which can reduce the time of green agricultural products in logistics, transportation, warehouse, and market.

4.4. Strengthen the Service Awareness of Customer Service Staff, Increase the Number of Service Training, and Improve Customer Service Quality and Business Image. Customer service has a positive impact on consumers' trust. It can be said that high-quality customer service level will improve consumers' trust in the e-commerce marketing of green agricultural products. Customer service includes prepurchase and postpurchase services. A good service experience will improve consumers' shopping confidence. In the prepurchase service, the quality of goods and the reasonable arrangement of resources are guaranteed from the source. The customer service personnel timely solve the purchase problems of consumers in the process of shopping guide, and ensure the quality and freshness of products in the process of product transportation. In the postpurchase service, the events that occurred shall be handled in time. In this process, the customer service personnel shall actively

guide the processing of green agricultural products, give timely feedback to the opinions and problems put forward by consumers, and refund the full amount in case of product quality and safety problems. This needs to improve the website system, do a good job in the training of customer service staff, and improve the consumer service experience.

4.5. Improve the Website System, Strictly Fulfill Service Commitments, and Protect Consumers' Rights and Interests. The website system has a positive impact on consumers' trust. Therefore, a perfect and comprehensive website system can improve consumers' trust in e-commerce marketing sellers of green agricultural products. The website rules and systems of service commitment, after-sale service, and safety guarantee enhance consumers' sense of purchase security. A perfect website system needs the cooperation of the feedback system and receives feedback information from all aspects. We monitor the transaction process to prevent credit value scoring, so as to protect the rights and interests of consumers.

5. Conclusions and Prospects

5.1. Conclusions. The influencing factors of consumer trust in green agricultural products' e-commerce marketing based on big data analysis are analyzed. The research shows that the Cronbach coefficients obtained from the test are greater than 0.6, which has certain credibility and good effectiveness. The consumption mode of prepayment in online festivals increases the number of irrational purchases of consumers to a certain extent; that is to say, this marketing mode plays a positive role in irrational purchase behavior.

5.2. Prospects

- (1) The selection of influencing factors of consumer trust in e-commerce marketing of green agricultural products is based on previous studies. Each factor has an impact on consumer trust, but the impact of other factors on consumer trust cannot be ruled out. Future research can consider studying consumer trust from the perspective of consumer perceived risk.
- (2) E-commerce for selling green agricultural products through the internet does not distinguish between specific e-commerce models. The research scope is

- relatively large. In order to realize the fine research of e-commerce marketing of green agricultural products, in the future works, we can divide the e-commerce marketing mode of green agricultural products and study the problem of consumer trust on the basis of division.
- (3) In big cities, consumers with higher income levels pay more attention to the quality of life, are not sensitive to the price of green agricultural products, and are willing to accept high-price products. Their trust tendency is also relatively high. Therefore, this kind of consumer group can be divided into potential customers, and a combination of online and offline marketing modes can be carried out to improve the consumer experience.

Data Availability

The raw data supporting the conclusions of this article can be obtained from the author upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest regarding this work.

References

- [1] R. Berman and A. Israeli, "The value of descriptive analytics: evidence from online retailers," *SSRN Electronic Journal*, vol. 12, no. 1, pp. 1–39, 2020.
- [2] L. Lee and V. Charles, "The impact of consumers' perceptions regarding the ethics of online retailers and promotional strategy on their repurchase intention," *International Journal of Information Management*, vol. 57, no. 2, pp. 102264–103120, 2021.
- [3] S. Colombo and N. Matsushima, "Competition between offline and online retailers with heterogeneous customers," *Review of Industrial Organization*, vol. 57, no. 3, pp. 647–664, 2020.
- [4] D. Aparicio, Z. Metzman, and R. Rigobon, "The pricing strategies of online grocery retailers," *NBER Working Papers*, vol. 12, no. 1, pp. 59–68, Article ID 28639, 2021.
- [5] M. K. Javed, M. Wu, T. Qadeer, A. Manzoor, A. H. Nadeem, and R. C. Shouse, "Role of online retailers' post-sale services in building relationships and developing repurchases: a comparison-based analysis among male and female customers," *Frontiers in Psychology*, vol. 11, no. 2, pp. 594132–594214, 2020.
- [6] I. Schröter, N. R. Grillo, M. K. Limpak et al., "Webcam eye tracking for monitoring visual attention in hypothetical online shopping tasks," *Applied Sciences*, vol. 11, no. 19, pp. 9281–9301, 2021.
- [7] S. Bates, B. Reeve, and H. Trevena, "A narrative review of online food delivery in Australia: challenges and opportunities for public health nutrition policy," *Public Health Nutrition*, vol. 6, pp. 1–11, 2020.
- [8] F. Hossein Nia Shavaki and F. Jolai, "A rule-based heuristic algorithm for joint order batching and delivery planning of online retailers with multiple order pickers," *Applied Intelligence*, vol. 51, no. 6, pp. 3917–3935, 2021.

- [9] M. A. Zenone, J. Snyder, and V. Crooks, "Selling cannabidiol products in Canada: a framing analysis of advertising claims by online retailers," *BMC Public Health*, vol. 21, no. 1, pp. 1285–1300, 2021.
- [10] A. Ss, B. As, and C. Pb, "Optimal checkout strategies for online retailers - sciencedirect," *Journal of Retailing*, vol. 24, no. 7, pp. 1–10, 2021.
- [11] S. Aboul-Dahab, G. Agag, and Z. Hassan Abdelmoety, "Examining the influence of cultural and ethical ideology on consumers perceptions about the ethics of online retailers and its effects on their loyalty," *Journal of Retailing and Consumer Services*, vol. 61, no. 7, pp. 102559–103119, 2021.
- [12] H. Ganesh, P. S. Aithal, and P. Kirubadevi, "Changes in consumer perspective towards discount at brick-and-mortar stores owing to emergence of online store format in India," *International Journal of Management, Technology, and Social Sciences*, vol. 5, no. 1, pp. 43–83, 2020.
- [13] A. Kolte, B. Sangvikar, A. Pawar, and J. Singh, "Investigation of applied criteria for selecting online retailers: implications from the Indian market," *International Journal of Enterprise Network Management*, vol. 12, no. 4, pp. 297–311, 2021.
- [14] J. Wu, T. Wu, and B. B. Schlegelmilch, "Seize the day: how online retailers should respond to positive reviews," *Journal of Interactive Marketing*, vol. 52, no. 11, pp. 52–60, 2020.
- [15] A. Xx, A. Ys, B. Wac, C. Yg, and A. Hw, "Data-driven decision and analytics of collection and delivery point location problems for online retailers - sciencedirect," *Omega*, vol. 100, no. 4, pp. 12–21, Article ID 102280, 2020.
- [16] M. Rizwan, S. Hassanali, S. Akhter, Y. Abbas, and W. Aziz, "Determinants affecting consumer complaining behavoir: a study in a university of Pakistan," *Asian Journal of Empirical Research*, vol. 3, no. 2, pp. 160–174, 2020.
- [17] K. Hampel, P. Ucieklak-Jez, and A. Bem, "Health system responsiveness in the light of the euro health consumer index," *European Research Studies Journal, xxiv*, vol. 10, no. 4B, pp. 659–667, 2021.
- [18] A. Dangi and V. Singh, "Personality influences risk perception in online shopping: an indian consumer perspective," *International Journal of E-Business Research*, vol. 17, no. 3, pp. 55–65, 2021.
- [19] W. Supotthamjaree and P. Srinaruewan, "The impact of social media advertising on purchase intention: the mediation role of consumer brand engagement," *International Journal of Internet Marketing and Advertising*, vol. 15, no. 5/6, pp. 498–526, 2021.
- [20] L. Holbrook and M. Alamaniotis, "Survey of machine learning algorithms to detect malware in consumer internet of things devices," *The International Journal on Artificial Intelligence Tools*, vol. 30, no. 4, pp. 2150020–2150223, 2021.
- [21] A. Khan, F. Dobbie, K. Siddiqi et al., "Illicit cigarette trade in the cities of Pakistan: comparing findings between the consumer and waste recycle store surveys," *Tobacco Control*, vol. 3, no. 3, Article ID 056386, 2021.
- [22] E. Karaagac, T. Koch, and V. M. Archodoulaki, "The effect of PP contamination in recycled high-density polyethylene (rPE-HD) from post-consumer bottle waste and their compatibilization with olefin block copolymer (OBC)," Waste Management, vol. 119, no. 1, pp. 285–294, 2021.
- [23] S. Denver, J. D. Jensen, and T. Christensen, "Consumer preferences for reduced antibiotic use in Danish pig production," *Preventive Veterinary Medicine*, vol. 189, no. 3, pp. 105310–106111, 2021.
- [24] S. Gupta, N. Nawaz, A. A. Alfalah, R. T. Naveed, S. Muneer, and N. Ahmad, "The relationship of CSR communication on

- social media with consumer purchase intention and brand admiration," *Journal of Theoretical and Applied Electronic Commerce Research*, vol. 16, no. 5, pp. 1217–1230, 2021.
- [25] A. Kirkegaard, L. Ball, L. Mitchell, and L. T. Williams, "The quality in nutrition care (quince) model: development of a model based on australian healthcare consumer perspectives," *Family Practice*, vol. 39, no. 3, pp. 471–478, 2021.
- [26] H. Leipämaa-Leskinen, "Practicing mundane consumer resistance in the reko local food system," *Qualitative Market Research: An International Journal*, vol. 24, no. 3, pp. 341–357, 2021.
- [27] A. Samoggia, P. Landuzzi, and C. E. Vicién, "Market expansion of caffeine-containing products: Italian and argentinian yerba mate consumer behavior and health perception," *International Journal of Environmental Research and Public Health*, vol. 18, no. 15, pp. 8117–8127, 2021.
- [28] J. Steinbach, V. d. C. d. F. Burgardt, F. P. d. Castro-Cislaghi et al., "Understanding consumer, consumption, and regional products: a case study on traditional colonial-type cheese from Brazil," *International Journal of Gastronomy and Food Science*, vol. 26, no. 4, pp. 100418–101118, 2021.
- [29] I. Rúa-Hidalgo, M. Galmes-Cerezo, C. Cristofol-Rodríguez, and I. Aliagas, "Understanding the emotional impact of gifs on instagram through consumer neuroscience," *Behavioral Sciences*, vol. 11, no. 8, pp. 108–120, 2021.
- [30] J. Bright and B. Siby, "A study on the factors influencing consumer response and brand value as a result of digital marketing in standalone restaurant," *Historical Research*, vol. 34, no. 2, pp. 1–10, 2021.
- [31] J. J. H. Bashingwa, D. Mohan, S. Chamberlain et al., "Assessing exposure to kilkari: a big data analysis of a large maternal mobile messaging service across 13 states in India," *BMJ Global Health*, vol. 6, no. 5, Article ID e005213, 63 pages, 2021.
- [32] E. F. Zineb, R. Najat, and A. Jaafar, "An intelligent approach for data analysis and decision making in big data: a case study on e-commerce industry," *International Journal of Advanced Computer Science and Applications*, vol. 12, no. 7, pp. 1–10, 2021.
- [33] C. Ji and Y. Liu, "Integrated mining of network big data based on semi supervised deep learning," *Computer Simulation*, vol. 38, no. 7, pp. 313–316, 2021.
- [34] S. Sasikala, S. Gomathi, V. Geetha, and L. Murali, "A proposed framework for cloud-aware multimodal multimedia big data analysis toward optimal resource allocation," *The Computer Journal*, vol. 64, no. 6, pp. 880–894, 2021.
- [35] S. Kim, A. Lee, and D. Park, "A study on neologism research trends and perception of social media users on neologism through big data analysis," *Big Data Analysis*, vol. 6, no. 6, pp. 1–10, 2021.
- [36] S. R. Gilyarevsky, "Approaches to assessing the quality of observational studies of clinical practice based on the big data analysis," *Rational Pharmacotherapy in Cardiology*, vol. 17, no. 4, pp. 584–593, 2021.