

## Analysis on Localized Personality Recognition of Brands of Fresh Agricultural Products Retail E-commerce

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**Keywords:** fresh agricultural product; retail e-commerce; brand personality; co-word analysis

**Abstract.** Based on the online review data of fresh agricultural products retail e-commerce platform, this paper uses word frequency analysis method to conduct word frequency statistics on user comment keywords, and builds high-frequency keyword Tables of fruits and vegetables, meat and aquatic products; Constructs the localized brand personality dimension system of fresh agricultural products by using co-word analysis; It is further found that consumers focus on the cost performance, taste and food safety of the three types of fresh agricultural products, but there are differences in the requirements of chewing, edible and portable convenience, workmanship, nutritional value, brand grade and delivery method. The research conclusions have a guiding role in the development of retail sales of fresh agricultural products.

### Introduction

With the continuous improvement and development of the Internet, big data, mobile payment and other technologies, as well as the central government's policy support for rural e-commerce infrastructure construction, they have promoted the rapid development of retail sales of fresh agricultural products. In 2017, the retail sales of fresh agricultural products in China reached 139.13 billion yuan, and has maintained a growth rate of more than 50% for five consecutive years since 2013. At the same time, the market competition between fresh retail e-commerce is intensified, the degree of product homogeneity is high, and brand personality has become a key factor in enterprise competitiveness. The brand personality of retail e-commerce has important significance for market differentiation and positioning, which helps itself to stand out in the fierce competition.

Brand personality is one of the hot issues in brand research. Aaker (1997) defined brand personality as a collection of consumer personality features associated with the brand. The existing researches are mainly focused on the brand personality dimension (Kang & Bennett et al, 2016) and related influence value (Su & Reynolds, 2017). For example, Kang & Bennett et al (2016) made data collection for college students and analyzed the personality dimensions of sports brand based on Sports brand theme structure. Huang & Lu (2003) built a Chinese localized brand personality dimension with consumer self-filled questionnaires. Su & Reynolds (2017) revealed that brand personality has different roles in promoting brand selection by means of self-consistency theory. Cao Dan (2018) revealed the positive effect of brand personality on self-concept and fashion-oriented relationship. However, there is still a lack of research on the personality of retail e-commerce brand of fresh agricultural products, and we can not identify brand personality factors, providing effective theoretical guidance and practical reference for the construction of personalized brand of fresh agricultural products retail e-commerce.

This paper adopts the co-word analysis method, combined with the e-commerce platform consumer online comments and the localized brand personality dimension scale developed by Huang & Lu (2003), specifically identifying the localized brand personality of the fresh agricultural products, providing new ideas for the retailing of e-commerce for fresh agricultural products to create accurate brand personality.

## **Research on the definition of fresh agricultural product**

At present, the definition of fresh agricultural products is not uniform. Representative scholars like Fang Xin (1999) believed that fresh agricultural products are processed without deep processing such as cooking and production. They can be sold only with necessary preservation and simple finishing. The business scope of agricultural products is “three fresh products”: fruits and vegetables, meat and aquatic products. Liu Pei (2010) believed that fresh agricultural products are primary products produced by the agricultural sector, do not contain any processing procedures, and cannot be preserved at room temperature for a long time, generally including vegetables, fruits, meat and aquatic products. Li Man (2017) defined fresh agricultural products as agricultural products that are not deeply processed and should not be preserved for a long time under normal temperature conditions. They are also called fresh produce, mainly including fresh three products, namely vegetables and fruits, meat and aquatic products. They also include some foods such as eggs, milk, frozen processed foods, and cooked foods. The 2017 Research Report on the Market Prospects of China's Fresh Agricultural Products Chain Industry pointed out that fresh agricultural products have higher requirements for timeliness, safety and variety diversity, mainly including vegetables, fruits, poultry, eggs, aquatic products, meat, dairy products, etc. Moon & Jeong et al (2018) believed that fresh agricultural products have higher requirements for freshness, mainly including fruits, vegetables, meat and aquatic products. The "2018 China Agricultural Products E-commerce Development Report" pointed out that China's fruits and vegetables, meat and aquatic products output rank first in the world.

From the definition of fresh agricultural products at home and abroad, it is easily found that fruits, vegetables, meat and aquatic products are the most representative categories of fresh agricultural products. For the convenience of research, this paper defines fresh agricultural products as agricultural products that have not been processed in depth and are not suitable for long-term storage under normal temperature conditions and the scopes of business are primary fresh agricultural products and frozen fresh agricultural products, including fruits and vegetables (fresh frozen), meat (live livestock, fresh frozen meat and chop, fresh egg milk, honey, etc.) and aquatic products (live fresh frozen aquatic products, aquatic plants, etc.) .

## **Research on brand personality dimension**

The researches on brand personality dimensions have focused on the development of brand personality dimension and scale system (Maggie & Bert et al, 2009). Aaker (1997) first designed the five-dimensional scale of brand personality, including “innocent“, “stimulus“, “competent“, “educated“ and “strong“. With the deepening of brand personality research, Aaker & Benet-Martínez et al (2001) found that when exploring brand personality in a cross-cultural context, it is necessary to pay attention to the similarity of brand personality in different cultural backgrounds, also to the unique characteristics of specific countries and regions. In 2003, based on Aaker's research, Huang Shengbing and Lu Taihong took Chinese consumers as samples to empirically research the five brands dimensions and scale system of “Benevolence, Wisdom, Bravery, Music and Elegance“ with Chinese traditional culture characteristics. Maggie & Bert et al (2009) proposed a five-dimensional personality dimension of “responsibility, activity, aggression, simplicity and affectivity“ based on human personality attributes. Hu & Wu (2015) used the welfare lottery as an example to design an eight-dimensional personality dimension of “authority, interest, welfare, snobbery, mass-simple, auspicious, traditional, mature“.

## **Research on the influence of brand personality**

The researches on the influence effect of brand personality are mainly focused on the influence of brand personality on brand identity (Xu & Wang, 2013), brand attitude (Ye & Wu, 2017) and purchase intention (Wang & Zou, 2017). Jin Liyin (2006) found through empirical analysis that

“Benevolence, Wisdom, and Bravery” in the five dimensions of brand personality have significant influences on consumers' individual brand identity and social brand identity, while although “Fun, Elegance” have significant influences on individual brand identity, their influences on social brand identity are not significant. Xie & Peng (2012) found that brand personality has a positive main effect on purchase intention and brand attitude based on questionnaire survey. Xu & Wang (2013) used the old name as an example to find that the brand personality “intelligence” had a positive impact on personality identity, while the “mellow” and “ancient” dimensions had a negative impact on brand personality identity. Ye & Wu (2017) found that the interaction between employee communication behavior and brand personality will affect customer brand attitude. Wang & Zou (2012) discovered through researching functional and experiential brand personality that the more the advertising appeal exceeds the consumer brand personality, the lower the willingness to purchase; The study of symbolic brand personality found that when the consumer's “round cooked” personality perception is lower than the advertising appeal, the more the advertising appeal exceeds the consumer's perception, the higher the willingness to buy.

## **Research review**

From the literature review, there is still research space in the personality recognition of brands of fresh agricultural products retail e-commerce. The researches on the personality recognition of brands of fresh agricultural products retail e-commerce have focused on qualitative researches (Liu Changliang, 2013), Liu Changliang (2013) made recognition of Chinese fresh agricultural products brands based on positioning theory, and it is still unable to provide theoretical guidance for the construction of brands personality of fresh agricultural products retail e-commerce. In view of the lack of research, this paper shifts the brand personality to the retail e-commerce situation of fresh agricultural products, and specifically studies the localization brand personality of fresh agricultural products retail e-commerce to avoid homogenization of brand competition.

## **Research method**

This paper uses the word frequency analysis to conduct research. The word frequency analysis, which was first used by Robert (1997), is usually used as a method of bibliometrics. It mainly uses the frequency of the occurrence of literature keywords to determine the research hotspots and development trends in this field. The word frequency analysis method is not only applied to related fields such as nanotechnology (Robert & Gauthier, 1997), software quality (Wan & He et al, 2007), information management (Qiu & Yu et al, 2013), etc., but also extends to the field of network text information (Miao & Ma et al, 2014). Based on this, this paper takes the online comment of e-commerce platform users as the object, and analyzes the high-frequency keywords and mutual relations.

## **Data collection**

User commentary is a supplementary explanation of the user's overall situation of the network merchant after the end of the online shopping, which can reflect the situation of the product itself, the service attitude of the network merchant and the logistics to a certain extent. The buyer's impression is a streamlined summary of user comments, which can accurately reveal the central idea of user comments. In this paper, Jingdong Mall Fresh Channel and Suning “Su Xiansheng” are selected as data collection sources, and “Fresh Agricultural Products” is identified as a search subject for store search. The products are classified as “fruit and vegetable”, “meat” and “water products”. Uses the Octopus Reptile Software to collect the impressions of three types of fresh shop buyers respectively; Due to the limited number of e-commerce platforms selected, the accuracy of the search results is affected to a certain extent. This paper also collects the impressions of fruit and vegetable buyers on the “Original Living Network” e-commerce platform, and collects the impressions of meat fresh buyers on the “No. 1 Shop” e-commerce platform, then Collects the

impressions of aquatic product buyers on the "Fresh Terminal" e-commerce platform. We invited two master's tutors, five master students and five doctoral students to read all the data, manually remove the wrong and irrelevant items, and finally get 2,083 impressions of fruit and vegetable buyers, 1,952 Impressions of meat buyers and 1,826 impressions of aquatic products buyers.

### **Identify high-frequency keywords**

Use ROST CM software to synonymize and classify keywords, and have words with the same meaning but different expressions, such as "tasteful taste" and "first-class taste", "very fresh" and "freshly full", "good" and "good taste", "exquisite workmanship", "excellent workmanship", "smartness" and "sweetness", "high-end fashion" and "exhibition grade" treated uniformly. In order to make the obtained keywords reflect the brand personality of fresh agricultural products, and the quantity is moderate, this paper selects keywords with a word frequency of at least 7 to enter the vocabulary and encode the high-frequency keywords. Finally, 23 keywords are included in the vocabulary of fruit and vegetable products, 25 keywords are included in the vocabulary of meat products, and 24 keywords are included in the vocabulary of aquatic products (see Table 1).

### **Co-word analysis**

In this paper, common word matrices of fruit and vegetable, meat and aquatic product are constructed respectively. UCINET6 software is used to analyze the centrality of common word matrices of fruit and vegetable, meat and aquatic product. Combined with NETDRAW drawing, the software generates three types of fresh buyer impression high-frequency keyword social network analysis map (see Figure 1). This paper combines the buyer's impression of high-frequency keyword Table and social network analysis to analyze the personality of three types of fresh brand.

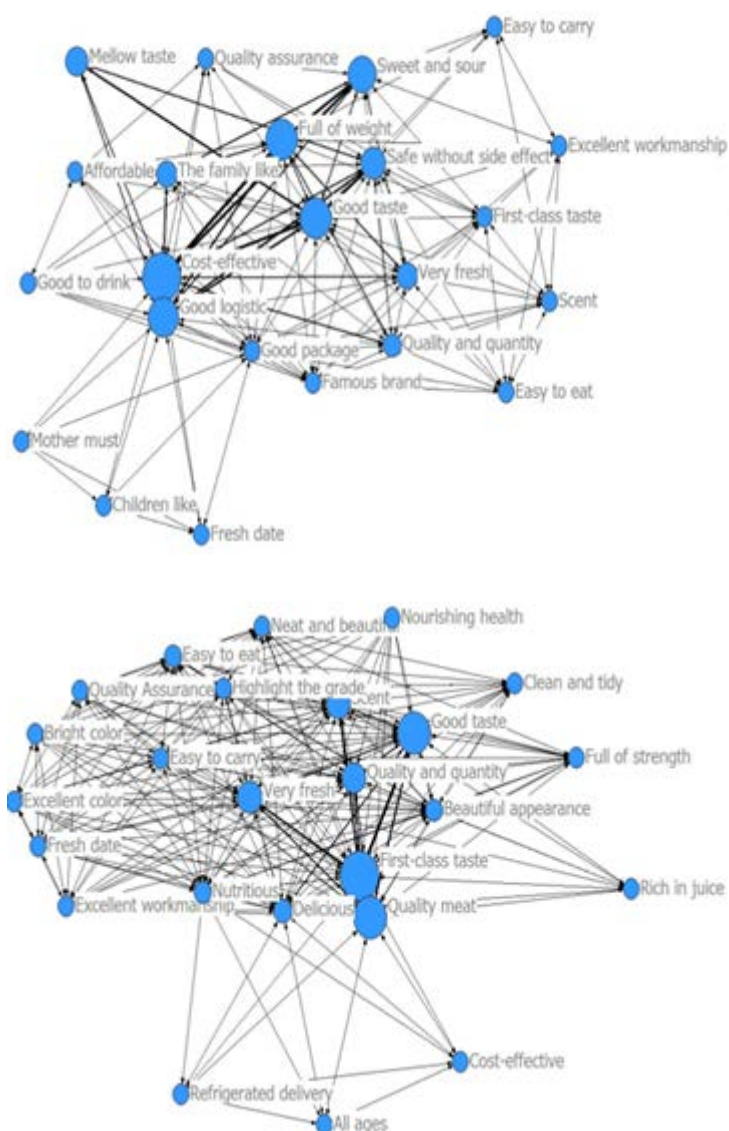
#### **(1) Fruit and vegetable fresh brand personality**

For fresh fruit and vegetable, the most important brand personality of consumers is "cost-effective", "good taste", "safe to eat", "fast logistics and fresh food". "cost-effective" is reflected in the "quality and quantity", "quantity is sufficient", "price is cost-effective". As people's quality of life continues to improve, fresh agricultural product has become a must-have for residents, and consumers expect to buy more products at lower prices; "Good taste" is characterized by "sweet and sweet", "mellow taste", "good taste", "first-class taste" and "family likes". Consumers buy fresh fruits and vegetables to meet the needs of food, the product taste is the most basic requirements of consumers; "Eating safety" is characterized by "safety without side effects" and "quality assurance". In recent years, the quality and safety of fruit and vegetable has become more and more prominent. Problems such as pesticide residues and other chemical products pose a serious threat to the health of consumers of fruit and vegetable. Consumers hope to purchase fresh fruits and vegetables that are safe to eat; "Fast logistics and fresh food" is reflected in the "good logistics", "fresh" and "fresh date". With the increasing emphasis on cold chain logistics and food preservation technology for fresh produce, consumers are more inclined to purchase "three high" fresh produce with high preservation, high safety factor and high distribution efficiency.

With the continuous development of fruit and vegetable fresh retail e-commerce, consumers began to put forward the "excellent workmanship" and "easy to eat and carry" brand personality requirements. With the rapid increase in the number of fresh and fruit-based e-commerce companies, more and more online merchants are available for consumers to choose. On the basis of satisfying the functional requirements of products, consumers begin to demand the workmanship of products; "Easy to eat and carry" is mainly reflected in "comfortable consumption", "convenient cooking", "easy to use", "complete ingredients", "easy to save", "convenient storage" and so on. Fresh fruit and vegetable, as a necessity for people's daily necessities, must have the characteristics of convenient to eat and carry.

Table 1 Three types of fresh buyer impression high-frequency keywords (partial)

Fruit and vegetable			Meat			Aquatic products		
Serial number	Keywords	Frequency	Serial number	Keywords	Frequency	Serial number	Keywords	Frequency
1	Cost-effective	34824	1	First-class taste	8488	1	Quality and quantity	2670
2	Full of weight	29163	2	Quality meat	4942	2	First-class taste	1974
3	Sweet and sour	25627	3	Good taste	4787	3	Quality meat	1543
4	Good taste	23485	4	Fresh	2776	4	Delicious	1297
5	Good logistic	20292	5	Quality and quantity	1904	5	Fresh	638
6	Safe without side effect	10317	6	Scented	1760	6	Good taste	367
...	...	...	...	...	...	...	...	...
18	Affordable	84	20	Excellent color	46	19	Bright color	47
19	Quality assurance	57	21	Neat and beautiful	46	20	Good color	21
20	Scented	15	22	Excellent workmanship	34	21	Clean and tidy	19
21	Excellent workmanship	15	23	Fresh date	33	22	Neat and beautiful	18
22	Easy to eat	15	24	Rich in juice	9	23	Rich in juice	13
23	Easy to carry	7	25	Nourishing health	7	24	Excellent workmanship	12



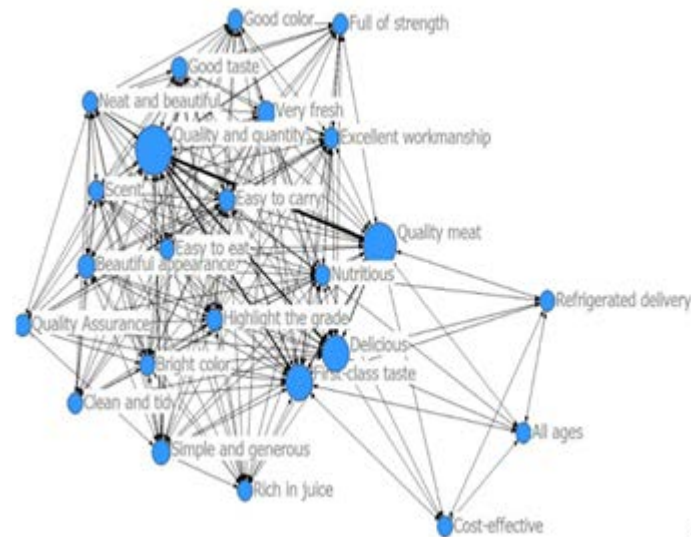


Figure 1 Three types of fresh agricultural products buyer impression high-frequency keyword social network analysis chart

## (2) Meat fresh brand personality

For meat fresh, consumers generally pay attention to three aspects: “good taste“, “quality meat“ and “quality and quantity“. “Good taste“ is reflected in the “first-class taste“, “good taste“, “delicious“, and “scented“. The taste of the product is the most basic requirement for consumers to produce fresh meat and consumers mainly value the taste of fresh meat. “Quality meat“ is manifested in “fresh meat color“, “slim meat“, “suitable size“, “slim meat“, “rich gravy“, “rich meat“, “fat and thin“, etc.. From the network map, “fresh meat“ is closely related to “fresh date“. Quality meat can enhance the reliability of products and convey the information of product quality assurance to consumers. The “quantity and quality“ is reflected in “a large amount of material“, “grand fullness“, “rich content“ and “high quality“, “simple atmosphere“ and other aspects. Similar to the fresh fruit and vegetable, meat fresh is a necessity for residents; consumers want to buy the most adequate products at the same price.

With the growing popularity of meat fresh-selling e-commerce, brand personality “chewful“ and “refrigerated delivery“ began to receive attention from consumers. “Chewy“ is also called “smart and full“. Chewing is one of the main indicators for judging the quality of meat and the chewy meat can better satisfy the taste of consumers. “Refrigerated delivery“ generally refers to the use of cold flow logistics for product transportation. Since meat freshness requires high storage environment temperature, the use of cold chain logistics can greatly reduce the loss of products and ensure the freshness of products.

## (3) Aquatic product brand personality

Regarding the freshness of aquatic products, “high cost performance“, “good meat quality“, “delicious and delicious“ and “high-end atmosphere“ are the brand personality that consumers are generally concerned about. For “cost-effective“, “Quality meat“ and “delicious“, it will not be repeated here. “High-end atmosphere“ is mainly reflected in “expressing grades“ and “beautiful appearance“. Compared with fruits and vegetables and meat, consumers have put forward higher requirements for the social representation value of aquatic products, and hope that the aquatic products they purchase can demonstrate their social status.

With the increasing purchase of aquatic products, some consumers have demanded “clean and tidy“ and “nutritious“ products. “Clean and tidy“ is characterized as “tidy and beautiful“. The clean and tidy product appearance can bring consumers a sense of pleasure and improve purchase satisfaction. “Nutrition-rich“ performance means “all ages“ and “to nourish health“. Aquatic products are rich in protein and have low fat content. Many consumers buy aquatic products to satisfy their own nutritional needs.

## Construction of Localized Brand Personality Dimension System of Fresh Agricultural Product

On the basis of completing the recognition of the fresh brand personality of fruits and vegetables, meat and aquatic products, this paper summarizes the common brand personality of the three types of fresh to represent the basic brand personality of fresh agricultural products, including "cost-effective", "good quality", "quality assurance", "fresh meat", "all ages", "outstanding shape", "higher grade", "excellent workmanship", "tidy and beautiful", etc. 15 brand personality, and then complete the localized brand personality dimension system of fresh agricultural products. Firstly, to identify the connotation of the basic brand personality of fresh agricultural products; secondly, according to the characteristics of each dimension in the localized brand personality dimension scale developed by Huang & Lu (2003), the basic brand personality of fresh agricultural products is corresponding to the five dimensions of "Benevolence", "Wisdom", "Bravery", "Fun" and "Elegance", then the localized brand personality dimension system of fresh agricultural products is constructed (see Table 2).

Table 2 Localized brand personality dimension system of fresh agricultural products

Personality dimension	High-frequency keyword
Benevolence	Cost-effective, Quality and quantity, Quality assurance
Wisdom	Fresh meat, Fresh date, Refrigerated delivery
Bravery	Easy to eat, Easy to carry, Scented
Fun	Good taste, All ages, Beautiful appearance
Elegance	Highlight the grade, Excellent workmanship, Neat and beautiful

## Research conclusion

This paper analyzes the three brands of fresh fruits and vegetables, fruits and vegetables, meat and aquatic products through the retail e-commerce platform buyer's high-frequency keyword list and social network analysis chart, and summarizes the basic brand personality of the fresh agricultural products, then constructs the localized brand personality dimension system of fresh agricultural products. The study draws four conclusions: First, "high cost performance", "good taste" and "quality guarantee" are the distinctive brand personality of the three types of fresh produce; secondly, for fresh fruits and vegetables, "refrigerated delivery" and "Fresh" are also the brand personality that consumers pay attention to. At the same time, consumers begin to have higher requirements for product work, consumption and portability. Third, for meat fresh, consumers begin to put forward "The requirements of "sweet chewing" and "refrigerated delivery"; fourthly, for aquatic products, "presenting the grade" is also one of the brand personalities that consumers value. In addition, Consumers are beginning to place higher demands on product uniformity and nutritional value.

## Management revelation

The localized brand personality dimension system of fresh agricultural products brings five inspirations to the management of fresh retail e-commerce: First, improve product quality or reduce purchase price to improve product cost performance. The key to lowering the purchase price is to reduce the unit production cost of the product. The network supplier should choose the supplier of large-scale production to solve the high cost problem brought by the small-scale production of "large quantity, small scale, geographical dispersion and different levels of production". In order to strengthen product quality supervision, network operators should also establish a product quality accountability system to ensure product quality; Second, strengthen product production date and logistics distribution management to ensure product freshness. Network operators must rationally formulate ordering strategies to ensure that product dates are fresh, and should also outsource cold chain logistics services to high-quality and reliable third-party logistics service providers to reduce product loss during transportation; Third, innovative packaging to improve the convenience of food

consumption and carrying. Network operators should increase investment in research and development, develop smart packaging products, and improve the convenience of food consumption and carrying; Fourth, comprehensive consideration of product taste, product application groups and product packaging to improve the product's pleasing. Netizens should provide differentiated taste products according to different consumers' taste preferences for fresh products, and comprehensively consider the age factors of consumers to ensure that products have no negative impact on the health of old and young groups. At the same time, pay attention to the product packaging image, starting from the public aesthetic, develop and design the product packaging with beautiful characteristics, and improve the fashion sense of the product; Fifth, attach importance to product work and uniformity management to improve the value of social representation. Network operators should put forward higher requirements for suppliers in terms of product workmanship and uniformity, so that products can further highlight the status of consumers.

The shortcoming of this research is that the co-word analysis method can only let us conduct preliminary research on the brand personality field of fresh agricultural products, and further research needs other methods. As a hot research topic, the retail brand personality of fresh agricultural products is attracting more and more scholars' attention and in-depth research.

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## References

- [1] Aaker J. Dimensions of brand personality[J]. Journal of Marketing Research, 1997, 34(03): 347-356.
- [2] Kang C, Bennett G, Peachey J W. Five dimensions of brand personality traits in sport[J]. Sport Management Review, 2016, 19(04): 441-453.
- [3] Huang Shengbing, Lu Taihong. Localization of Brand Personality Dimensions[J]. Nankai Business Review, 2003, 6(01): 4-9.
- [4] Su N, Reynolds D. Effects of brand personality dimensions on consumers' perceived self-image congruity and functional congruity with hotel brands[J]. International Journal of Hospitality Management, 2017, 66: 1-12.
- [5] Cao Dan. An Empirical Study of Consumer Self-Concept and Fashion Orientation Based on Brand Personality Latitude[J]. Management World, 2018(8): 186-187.
- [6] Fang Wei. Fresh Food Management and Its Development Trend[J]. Shopping Modernization, 1999, 19(12): 28-30.
- [7] Liu Pei, Liu Chao. Research on Risk Avoidance and Logistics Optimization of Fresh Agricultural Products Supply Chain[J]. China Logistics and Purchasing, 2010(17): 74-75.
- [8] Li Man. The inherent contradiction of the fresh agricultural product supply chain and its optimization approach. China Circulation Economy, 2017(07).
- [9] Moon I, Jeong Y, Saha S. Investment and coordination decisions in a supply chain of fresh agricultural products[J]. Operational Research, 2018, 18(06): 1-25.
- [1] Aaker, J. Dimensions of Brand Personality. Journal of Marketing Research, 1997, 36(34): 347-356.

- [10] Aaker J L, Benet-Martínez, Verónica, Garolera J. Consumption symbols as carriers of culture: A study of Japanese and Spanish brand personality constructs[J]. *Journal of Personality and Social Psychology*, 2001, 81(3): 492-508.
- [11] Geuens M, Weijters B, Wulf K D. A new measure of brand personality[J]. *International Journal of Research in Marketing*, 2009, 26(2): 0-107.
- [3] Huang Shengbing, Lu Taihong. Localization of Brand Personality Dimensions[J]. *Nankai Business Review*, 2003, 6(01): 4-9.
- [12] Hu Suihua, Wu Yuxuan. The Influence of Welfare Lottery Brand Personality Perception on the Willingness to Buy Welfare Lottery--Taking Guangdong Province as an Example[J]. *Systems Engineering*, 2015(05): 54-60.
- [13] Jin Liyin. Research on Brand Equity Drive Model Based on Brand Personality and Brand Identity[J]. *Journal of Beijing Technology and Business University (Social Science Edition)*, 2006, 21(01): 38-43.
- [14] Xie Yi, Peng Siqing. Research on the Influence of Brand Personality on Brand Attitude and Purchase Intention: A Cross-industry Comparison of Chinese and Foreign Brands[J]. *Management Review*, 2012, 24(12).
- [15] Xu Wei, Wang Xin-Xin, Xue Hai-Bo. Personality, Identity and Loyalty of Old Brands--Development and Evaluation of Personality Scale[J]. *Journal of Finance and Economics*, 2013, 15(04): 95-100.
- [16] Ye Shenghong, Wu Guobin, Hao Shuang. The Impact of Matching Employee Communication Behavior and Brand Personality on Customer Brand Attitude[J]. *Foreign Economics and Management*, 2017(07).
- [17] Wang Xia, Zou Deqiang, Zhao Ping. Research on the Influence of Advertising Appeal and Brand Personality Perception on Consumers' Purchase Intention[J]. *Chinese Journal of Management*, 2012, 9(04): 555.
- [18] Liu Changliang. Research on Brand Identification of Fresh Agricultural Products in China Based on Positioning Theory [D]. Lanzhou University, 2013.
- [19] Chu Jiewang, Qian Qian. Research Hotspots and Research Methods of Knowledge Management Based on Word Frequency Analysis in Recent 10 Years[J]. *Information Science*, 2014(10):156-160.
- [20] Robert D, Gauthier E, Ippersiel MP. The State of Nanotechnology Research. Report to the National Research Council of Canada, 1997, 15(11): 111-126.
- [21] Wan Jiangping, He Zhenhui, Zheng Chuwei. Thematic Analysis of Software Quality Research in China Based on Word Frequency Method[J]. *Journal of Information*, 2007, 26(10): 138-140.
- [22] Qiu Junping, Yu Houqiang, Wang Feifei. Status Quo and Trends of Information Management in China[J]. *Journal of Information*, 2013(3): 72-77.
- [23] Miao Hong, Ma Jintao, Zhang Huan. Research on the development and demand characteristics of leisure agriculture in Ningxia based on web text content analysis[J]. *Development Research*, 2014(2).
- [24] Bi Dayu, Xia Xiaoxu, Wang Wei. Analysis of Network Credit Rating of User Online Comment Data Mining[J]. *Modern Library Information Technology*, 2014, 30(Z1): 77-83.
- [25] Xia Yuqing, Liu Xuelin. Research on Causes and Countermeasures of Broken Chain of E-commerce Cold Chain Logistics of Fresh Agricultural Products[J]. *Logistics Engineering and*

Management, 2018, 40(12): 65+102-104.

[26] Tang Bulong. Research on the Causes and Countermeasures of Government Failure in the Quality and Safety Management of Fruits and Vegetables[J]. Science and Technology Management Research, 2012, 32(24).