

The Impact of Agricultural Product Geographical Indications on E-commerce Brand Value under Private Domain Operations

Junyang Chen

Nanfang College Guangzhou, Guangzhou, 510970, Guangdong, China

Abstract: China's agricultural e-commerce trade has exhibited a consistent and sustained growth trajectory in recent years which has not only reinforced China's economic development but has also emerged as a pivotal catalyst for the transformation of the country's agricultural development model. Currently, most Chinese agricultural e-commerce brands are confronted with several challenges. In this paper, starting from the private domain operations of e-commerce brands, agricultural product geographic identification, and e-commerce brands' value by combining domestic and foreign scholars' research summary, the results show that: (1) Private domain operations have a significant positive effect on the brand value of agricultural e-commerce. (2) The establishment and proliferation of geographical indications for agricultural products could enhance the value of e-commerce brands. (3) Geographical indications of agricultural products and private domain operations act as a guiding, influencing, and promoting role with respect to each other's development and operation. Finally, the author synthesizes the extant literature and research findings from both domestic and international sources, and presents the corresponding conclusions and proposes countermeasures for the principal challenges which are the development of Chinese agricultural e-commerce brands currently facing.

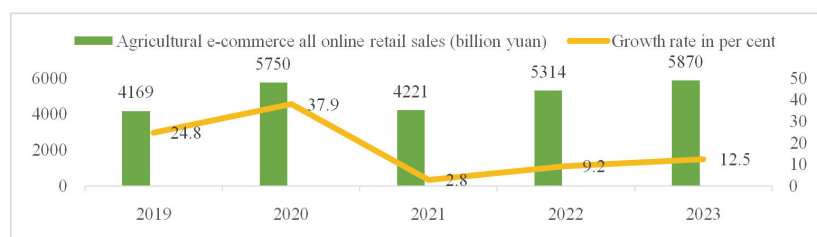
Keywords: Private Domain Operations; Agricultural Geographical Indications; E-commerce Brand Value; Agricultural E-commerce

1. Introduction

The Chinese agricultural e-commerce sector is currently experiencing rapid expansion, with significant growth in terms of scale, turnover, and volume. The Chinese government's Central Document No. 1 of 2024 asserts the necessity of implementing actions to promote farmers' income and achieve an overall improvement in the "industrial level," "construction level," and "governance level" in the countryside. At present, domestic rural and wholesale farmers' markets have established their own online sales platforms and comprehensive service systems, thus providing high-quality services for upstream and downstream supply chains. As a result, it has become the consensus and goal of many retailers to innovate the way they sell agricultural products and to look for pluralistic channels of cooperation.

1.1 Current status of agricultural e-commerce development in China

Firstly, the overall online retail sales of agricultural products e-commerce have been steadily increasing. According to data from the Ministry of Commerce's China International E-commerce Centre (Figure 1), China's total net retail sales of agricultural products have continued to grow since 2019, and although they have declined after the impact of the relative liberalization of the epidemic policy in 2021, they have also increased steadily in overall terms since then, and remain one of the most important drivers of China's agricultural economic development.

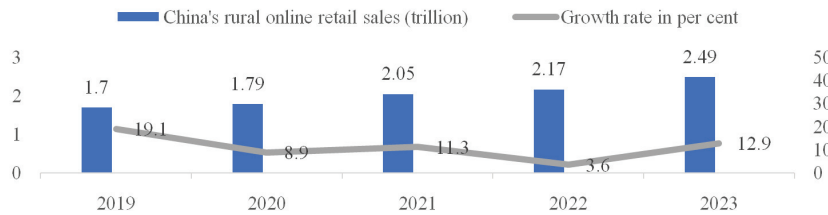


Source: Ministry of Commerce

Figure 1 China's agricultural e-commerce online retail sales and growth rate, 2019-2023

Secondly, China's rural e-tailing has also been steadily advancing. In addition, over the same period, the government has actively sup-

ported rural e-commerce by providing favorable policies to promote its effective development. As a result, China's rural e-commerce sales have grown steadily in recent years (Figure 2).



Source: Ministry of Commerce

Figure 2 China's rural online retail sales, 2019-2023

1.2 Problems

Firstly, supply chain and logistics support is incomplete. Due to the freshness and perishability of agricultural products, a cold chain logistics system is the key to ensuring product quality and freshness. However, China's agricultural e-commerce still suffers from problems in cold chain logistics, such as limited coverage of cold chain logistics facilities, high cost of cold chain transportation, and poor transportation channels.

Secondly, there is a lack of awareness of GI brand and protection for agricultural products. Chinese agricultural e-commerce enterprises generally face the problem of low awareness and lack of recognition of geographical indications, resulting in low consumer confidence in these GI products. In addition, agricultural e-commerce companies are often short of the brand awareness and long-term strategic planning, and are more concerned with the short-term benefits of their products, neglecting to build, protect and promote their brands.

Thirdly, there is a lack of private domain operation talents. At present, the vast majority of Chinese agricultural e-commerce brands are short of talent related to private domain operations, and the lack of relevant talent related to private domain operations will lead to the inability to implement refined operations, thus failing to meet the personalized needs of consumers and affecting the brand's competitiveness and market share.

2. Theory Review and Prospect

With the popularity of the Internet, the retail market is showing a new trend of online and offline coexistence and online retail and physical retail are gradually achieving synergy and integration. This paper further explores the impact of the brand value of agricultural e-commerce based on the existing research results.

2.1 Impact of agricultural product geographical indications on e-commerce brand value

According to Deng Xuefei et al.(2022), agricultural product GIs are mainly supported by four major aspects, including regional environment, product innovation, brand culture, and brand image. Li Sihao(2023) pointed out that the origin of the economic value generated by geographical indications is through the premium price of agricultural products and then the brand premium. Yu Jinfu et al.(2024) suggested that the establishment of geographical indications for agricultural products can effectively prevent the use of unauthorized names and thus protect the rights and interests of regional agricultural products. Shu Zhang et al.(2022) argued that there are problems such as the low added value of some agricultural products, and the sharing of one geographical indication by multiple agricultural products. Therefore, agricultural products e-commerce enterprises should start from their own operational needs, through technology, protection efforts, means and management, and other aspects of the development of agricultural products' geographical indications to make the brand value achieve an effective enhancement.

2.2 Impact of Geographical Indications of Agricultural Products on E-Commerce Private Domain Operations

Huang Jinyan et al.(2024)believed that geographical indications essence is a mark used to distinguish products. Fu Lei(2021)pointed out that private domain traffic is the cornerstone of e-commerce brand private domain operation. Wang Yong(2022) and others argued that the competitive and derivative characteristics of private traffic operations can help optimize e-commerce brand resource allocation. Li Xijuan et al.(2023) pointed out that there are problems such as weak awareness of agricultural products' geographical indication brand building and weak supervision and protection. Therefore, when establishing and perfecting the private traffic operation system, agricultural e-commerce companies should actively promote the visibility of geographical indications, to further enhance the brand value of agricultural e-commerce companies.

2.3 Impact of private domain operations on e-commerce brand value

According to Xu Linpeng et al.(2020) private domain operations are characterized by user ownership, free access, reusability, and direct user reach. Jiang Duo and Zhu ying(2023) pointed out that the value creation of private traffic comes from clustering core users in relatively

closed value communities which can improve the conversion rate and re-purchase rate, and reduce the marketing costs of enterprises. Peng, Yu-Chao, et al. (2022) pointed out that private domain traffic operation thinking is a business philosophy to make a larger customer base and realize customer resources. Zhang Duo(2023) pointed out that the improvement of the private traffic operation system of agricultural e-commerce can effectively enhance precision marketing and user stickiness as well as strengthen branding. Fabian Aulkemeier and Mohammad Paramartha (2016) and Cong Liang et al.(2023) believed that the current agricultural e-commerce brand is limited by resource conditions and the threshold of entry shows a gradual upward trend. Some foreign scholars have observed that the operation of agricultural products through the private sector can result in cost savings and the expansion of marketing channels(Paolo Buccirossi, 2016). Xue Ke et al.(2022) argued that private domain traffic is closed to traffic established based on trust and interests. According to Hu Jiyin (2022), the focus of private domain operations is on the interplay between private domain brands and consumers, so that companies and consumers can work together and share. Therefore, the good operation of private domain traffic has a certain degree of influence on the enhancement of the brand value of agricultural e-commerce, agricultural e-commerce enterprises should create their brand IP, build a perfect private domain traffic operation, increase the base of loyal customers, to further enhance the brand value.

2.4 Analysis of the intermediary role of private domain operations

Private domain operations have an important intermediary role in e-commerce. First of all, agricultural e-commerce companies can gain a deeper understanding of consumer needs and opinions through private domain operations, which can provide useful references for product research and development and improvement, thus improving the market competitiveness of products. Moreover, private domain operations also play an undoubted role in the promotion of agricultural products' geographical indications. By establishing and managing their communities and platforms, private domain operations share the stories and characteristics behind the geographical indications of agricultural products, which in turn is conducive to the dissemination of information about the geographical indications, and improves the visibility and reputation of the geographical indications. Finally, private domain operations also play an important intermediary role in the enhancement of the brand value of agricultural product e-commerce. Through the collection and analysis of private community data, agricultural products e-commerce brands can better understand consumer demand and purchasing behavior, grasp their preferences, and provide more personalized products and services, which in turn can help agricultural products e-commerce companies optimize the product structure, improve the user experience, and improve the competitiveness and satisfaction of the brand.

2.5 Review of research

The current protection of agricultural geographical indications is insufficient and e-commerce brands should improve their relevant protection measures which will help agricultural e-commerce to stand out in the market competition and enhance the value and competitiveness of the brand. Furthermore, how to make sure the development of an effective private community, the enhancement of user participation and retention, and the identification of user needs requires the utilization of relevant theoretical frameworks and empirical investigation. Moreover, there is a need for further research into the precise definition and screening of geographical indications of agricultural products and the combination of geographical indications with brand communication and the enhancement of value. The author postulates that good private domain traffic operation has a positive and significant impact on the value of agricultural e-commerce brands. The creation of agricultural products' geographical indications and their subsequent increase in popularity can also contribute to the enhancement of agricultural e-commerce brand value to a certain extent. Furthermore, the roles of GI and PTO are mutually reinforcing. The implementation of an effective private domain operation can enhance consumer loyalty and brand reputation, thereby facilitating the visibility of geographic indications and ultimately leading to an increase in private domain traffic, which in turn contributes to the enhancement of agricultural products' e-commerce brand value.

Therefore, agricultural products e-commerce brand should ensure the product quality is strictly controlled, and reduce marketing risk at the same time, so that the consumer's sense of well-being increases to promote the growth of consumer repurchase rate and trust in the value of the effective enhancement of the establishment of a good brand image, the formation of agricultural products e-commerce brand value of the improvement of a good closed-loop, long-term so that the brand's reputation and the enhancement of the core competitiveness of the phenomenon are inevitable.

3. Influence factors of the brand value of agricultural e-commerce

China's agricultural e-commerce now faces fierce market competition, while the companies' brand value will be affected by market demand, industry competition macroeconomic environment, and other factors. Geographical indications, as a strong support for brands, can help agricultural products establish a unique brand image and market position in the highly competitive industry, thus enhancing the competitiveness and value of the brand. Therefore, geographical indications, as a key of external influencing factor, have a significant impact on the brand value of agricultural e-commerce.

3.1 External influences

The main external influences on the current brand value of agricultural e-commerce include the following factors: first, Government Policies and Regulations. Certification systems, standard norms, and regulatory measures formulated by the government will have an impact on the brand value of agricultural e-commerce. Second, Market Competition. Competitors' product types, quality, price, promotional strategies, etc. will have an impact on the brand status of agricultural e-commerce. Third, Consumer Needs and Trends. If agricultural product e-commerce companies can meet consumer demand for quality products and services and provide personalized and differentiated goods and services, this will enhance their brand value. Fourth, Geographical Indication Certification. Geographical indication certification is an important way to protect the quality and geographical characteristics of geographical indication products. If an agricultural product e-commerce company can obtain the geographical indication certification, which proves that its products have the special quality and characteristics of a specific geographic region, it will increase the geographical indication value of the brand.

3.2 Internal influences

In addition to external influences, the brand value of agricultural e-commerce is also affected by internal influences such as product quality, brand image, and marketing strategy. Consumers pay more attention to product quality and cost-effectiveness when shopping online, and high-quality products can enhance consumers' purchasing experience and loyalty. Private domain operations focus on building one-to-one relationships with customers, meeting customer needs through precise marketing strategies, and increasing customer satisfaction and purchase conversion rates. Therefore, private domain operations as a key of internal influencing factor has a significant impact on the brand value of agricultural e-commerce.

Currently, the brand value of agricultural e-commerce is mainly affected by internal factors: first, Product Quality and Service Quality. The level of product quality and service quality will have a direct impact on consumer recognition, loyalty, satisfaction, and reputation of the brand. Providing high-quality products can increase consumer satisfaction and thus enhance the value of the brand. Second, Brand Culture Connotation. The brand culture of connotation agricultural e-commerce consists of the enterprise's mission, vision, core values, etc., which can give the brand a unique personality and meaning, increase the consumer's sense of identity and loyalty, and thus further enhance the brand value. Third, Internal Regulation and Compliance. Agricultural products e-commerce needs to establish internal regulation and compliance mechanisms to comply with relevant laws and regulations and geographical indications protection systems. Fourth, Agricultural Supply Chain Management. Agricultural products e-commerce companies need to establish a perfect supply chain management system to ensure that the origin information of agricultural products is true and reliable, and to control the quality of products and the transparency of supply chain links. Fifth, Private Domain Operations. Agricultural product e-commerce can establish and maintain a close relationship with users. Through customized services, personalized recommendations, and exclusive activities, consumer loyalty and satisfaction can be enhanced, thus strengthening the value and competitiveness of the brand.

4. Mechanism of action and path of realization

Based on the analysis of agricultural products e-commerce brand influencing factors, it is of great research significance to further examine its mechanism of action and path of realization. Through in-depth exploration of the factors influencing agricultural product brands, enterprises can better understand the market demand, shape a distinctive brand image, and improve brand value and market competitiveness. Therefore, in the process of agricultural e-commerce brand building, it is crucial to deeply understand the mechanism and realization path.

4.1 Mechanism of action

Geographical indications of agricultural products can not only affect the brand value of agricultural e-commerce through the direct effect, but also directly affect the private domain operation through, and further affect the brand value of agricultural e-commerce through the intermediary role of the private domain operations under the regulation. In addition, the private domain operations themselves can directly affect the brand value of agricultural e-commerce. (Figure 3)

4.2 Path to realization

In recent years, the scale and quality of China's agricultural e-commerce have a continuous improvement, becoming an important driver of solid economic development, China's agricultural e-commerce should take a reasonable path of realization in line with its situation.

(1) The direct impact of geographical indications on the brand value of agricultural e-commerce

Firstly, geographical indications are a recognition of the quality of the product and the region in which it is produced, ensuring that the quality, taste, and characteristics of agricultural products have region-specific advantages. Then, agricultural product e-commerce companies can further enhance the added value of their e-commerce brands by conveying the quality and regional characteristics of their products to consumers through high-quality brand stories and product introductions, as well as narrating local culture and historical traditions. In addition, ag-

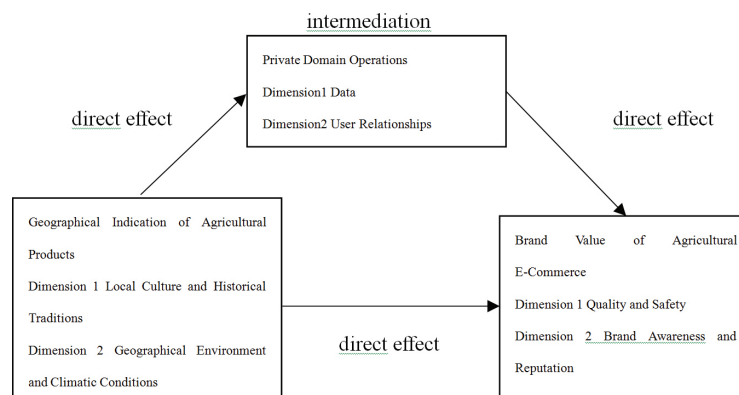


Figure 3 Mechanism of action

gricultural product e-commerce brands establish cooperative relationships with local agricultural product associations, local governments, and well-known e-commerce platforms to further increase brand exposure and market influence when achieving joint promotion of geographic indication products. Moreover, through the publicity and promotion of geographical indications, the brand image of agricultural products can be established, attracting more consumers to choose to buy, thereby increasing product sales and market share, and further enhancing the value of the e-commerce brand.

(2) The direct impact of private domain operations on the value of agricultural e-commerce brands

Agricultural products e-commerce brands can firstly gather core and potential users which can be established through social media, online forums, apps, and other channels to regularly share information on agricultural products, preferential activities, agricultural knowledge, and other content to attract users to participate and interact. Secondly, personalized services and cares can be provided through private domain operations, such as recommending suitable agricultural products and customized goods according to users' preferences and needs which can enhance users' identification and loyalty to the brand. Besides, agricultural e-commerce brands can regularly hold online and offline activities, organize user to visit farms, experience agricultural cultivation, etc., to enhance the users' awareness of the brand and sense of participation.

(3) Indirect impact of geographical indications on the brand value of agricultural e-commerce through private domain operations

Geographic indication of agricultural products is the certification of the uniqueness and quality of the origin of agricultural products, which has a certain credibility and traceability value. Through the private domain operation, it can display the geographic indication certification information and introduce the origin story in detail, which in turn can enhance the consumers' knowledge of the quality and value of the product and enhance the professionalism and credibility of the agricultural products e-commerce brand. More than that, private domain operation can attract traffic through social media, WeChat public numbers, small programs, and other channels, directing target customers to the e-commerce platform to buy agricultural products, by combining the certification information and characteristics of geographical indications, it can improve the exposure and attractiveness of agricultural products in the private domain traffic and indirectly increase the recognition and value of the brand.

To sum up, agricultural e-commerce brands can firstly promote consumers' trust and loyalty to the brand through the establishment of the certification of agricultural products' geographical indications to enhance the value of agricultural e-commerce brands. Secondly, it can maintain the consumer loyalty of the e-commerce brand through private domain operations, improve consumers stickiness, and further enhance the value of the agricultural e-commerce brand. Finally, agricultural e-commerce brands can combine the certification information and characteristics of geographical indications through private domain operations to establish a closer relationship with consumers, promote the enhancement of user dependence, and then promote the enhancement of e-commerce brand value.

5. Conclusions and recommendations

Through the above research, it is found that scholars generally focus on one or two influencing factors of agricultural e-commerce brand value at the early stage of the research, which is a more in-depth research mode, but it is expandable by focusing on a certain point. Therefore, based on the existing research of scholars, this paper focuses on the expandability of the above research and studies the influencing factors of the brand value of agricultural e-commerce as well as the relationship between the private domain operations, geographic indications, and the brand value of agricultural e-commerce from a holistic and multi-dimensional perspective.

5.1 Conclusions of the study

This paper argues that in today's complex and changing global era, the influencing factors of China's agricultural products' e-commerce

brand value include internal and external factors, etc., and the desire to improve its performance needs to take a variety of factors into account as well as the impact of the combination of many factors.

Firstly, private domain operations have a significant positive impact on the brand value of agricultural e-commerce. Agricultural products e-commerce enterprises should create their brand IP, build a perfect private domain traffic operation to attract more consumers, and improve customer satisfaction and loyalty, thus further enhancing brand value.

Secondly, the creation of agricultural products' geographical indications and the increase of their awareness can promote the brand value of agricultural products e-commerce. The creation of geographical indications can promote consumers' understanding of their products, increase the purchase rate of consumers, and thus promote the further enhancement of geographical indications' popularity, which in turn can promote the growth of brand value from the side.

Thirdly, the development and operation of agricultural product GIs and private domain operations are mutually reinforcing. An increase in the popularity of a geographical indication encourages consumers to select the relevant brand of agricultural products, which generates the private domain traffic increasing that in turn enhances the reputation of the geographical indication.

5.2 Recommendations

Chinese agricultural e-commerce brands should start from their reality, summarize and reflect on their shortcomings and polish up them, improve the operation management and development of private domain operations from multiple angles, and implement relevant measures to improve user stickiness, protect geographical indications, and enhance the core competitiveness of the brand.

Firstly, improve the private domain traffic operation system, in all-around control of product quality, and strengthen consumers loyalty to the brand. Agricultural product e-commerce brands should actively participate in social media platforms, respond to consumers questions and feedback, and increase consumers engagement and loyalty. Then, it can increase consumers awareness of its products and satisfaction with the brand by posting valuable educational content, such as knowledge about the characteristics of agricultural products, methods of consumption, and healthy recipes. In addition, agricultural e-commerce brands can actively collect positive reviews and recommendations from consumers and further enhance brand awareness and image through well-planned word-of-mouth marketing campaigns to strengthen brand value.

Secondly, the protection measures for geographical indications should be improved and upgraded, and the popularity of geographical indications should be actively promoted. Geographical indications are beneficial for building regional brands, expanding regional influence, creating a reputation for the "high quality" of geographical indications products, and enhancing the market competitiveness and regional brand influence of a specific region. Agricultural products e-commerce companies should improve the geographical indications quality traceability system, the whole process of traceability supervision of the production, trading and circulation of geographical indications products, in line with the standard policy requirements. To prevent the interests and brand value from being infringed upon, it is more important to establish a comprehensive geographical indication protection mechanism, co-operate with the government regulatory system, and effectively safeguard the rights and interests of agricultural products e-commerce brands themselves through the law.

References

- [1] Zhang Duo. The value and marketing model of private domain traffic in the era of digital economy[J]. China Circulation Economy, 2023, 37(12):59-67.
- [2] Xue Ke, Yu Mingyang. Generation, value, and operation of private domain traffic[J]. People's Forum, 2022(Z1):114-116.
- [3] Wang Y, Liu Leyi, Chi Xi et al. Traffic game and optimal pricing of traffic data - A perspective based on e-commerce platform[J]. Management World, 2022(8):116-132.
- [4] Yuchao Peng, Nanxuan Wang, Guichuan Deng, et al. Flow thinking in the digital economy era - A perspective based on supply chain capital utilization and financial profitability[J]. Management World, 2022(8):170-187.
- [5] L.P. Xu, R. Duan, Z.L. Xu, et al. Shift to private domain traffic model[J]. Communication Enterprise Management, 2020(9):46-49.
- [6] Paolo Buccirossi. Vertical Restraints on E-commerce and Selective Distribution[J]. Journal of Competition Law & Economics, 2015, 11(3).
- [7] Fu Lei. Discussion on private domain traffic cultivation strategy of social e-commerce based on 4C marketing theory[J]. Research on Business Economy, 2021(24):90-92.
- [8] Hu Jiyin. Path of social e-commerce model innovation under the perspective of private domain traffic[J]. Business Economic Research, 2022(9):87-90.

- [9] Cong Liang, Chu Zhiliang. Development Trend, Problems and Realisation Path of Agricultural Products E-commerce Channels in China [J]. Business and Economic Research, 2023(24):142-145.
- [10] Fabian Aulkemeier, Mohammad Paramartha, Maria-Eugenia Jacob and Jos Hillegersberg. A Pluggable Service Platform Architecture for E-commerce [J]. Inf Syst E-Bus Manage, 2016(14).
- [11] Jiang Duo, Zhu ying. Value Realisation and Mechanism of Private Domain Operation of Publishing Subjects--Taking Wechat Community as an Example[J]. China Publishing, 2023, (24):50-55.
- [12] Li Sihao. Geographical indications of agricultural products to help rural revitalization strategy: value, problems, and new thinking--Take Yutian County in Xinjiang as an example[J]. Agricultural Economy, 2023, (05):121-124.
- [13] Deng Xuefei, Lu Boyu, Xu Zijian. Research on the branding of geographical indication agricultural products, logo characteristics, internal mechanism, and realization path [J]. Agricultural Economy, 2022(06):123-126.
- [14] Yu Jinfu, Jin Ming. Opportunities and strategic choices for the development of geographical indications of agricultural products in China--a study based on the perspective of rural revitalization strategy[J/OL]. Journal of Hunan University (Social Science Edition), 1-7[2024-02-17].
- [15] Zhang Shu, Liu Zhenggang. Brand construction and protection of geographical indications of agricultural products[J]. Agricultural Economy, 2022, (04):139-140.
- [16] Li Xijuan, Li Wenliang. Research on the protection path of agricultural products' geographical indications in the context of rural revitalization [J]. Agricultural Economy, 2023, (03):136-137.

About the author: Junyang Chen(2004-), Male, Han nationality, Shenzhen, Nanfang College Guangzhou, Research interests: Digital Trade, Cross-border E-commerce, E-commerce.