

Research on digital finance empowering geographical indication product brand value enhancement— Taking Pizhou Ginkgo as an example

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Abstract: Pizhou Ginkgo is a national geographical indication product with unique medical and cultural and historical value, and is one of the important economic sources for local farmers. Based on the investigation of the current situation of Pizhou Ginkgo agricultural products, the study analyzed the value-enhancement mechanism of digital finance in helping regional geographical indication brands from the perspectives of long-tail effect, scale economy effect and industrial cluster effect, and proposed a proposal to enhance the value of Pizhou Ginkgo national geographical indication brands.

Keywords: Digital finance; geographical indication products; brand value; agricultural product brand; Pizhou Ginkgo

1. Introduction

China has a vast territory, abundant resources, a long history and profound cultural heritage, and is rich in geographical indication resources. Geographical indications are important intellectual property rights that embody unique regional culture. They are a living carrier for the protection and inheritance of traditional excellent culture. They have multiple values in ecology, tourism, culture and society, and are an important resource for enterprises to participate in market competition. However, at present, most geographical indication brands fail to exert their brand effects and fail to turn their own resource advantages into industrial advantages and market advantages. The creation of geographical indications empowered by digital finance is conducive to protecting local culture, enhancing brand value, promoting economic development, improving product competitiveness, promoting foreign trade diplomacy, and promoting rural revitalization [1].

2. Related concepts

Digital finance is the new products, new services and new business formats generated by applying digital technologies such as the Internet, blockchain, big data, and artificial intelligence to the financial industry [2]. With its openness, inclusiveness and collaboration, digital inclusive finance can reduce the financing costs of financial institutions and the cost of financial product services, thereby increasing the accessibility, inclusiveness and availability of financing of financial services, thereby reducing The financing threshold of enterprises can alleviate the problem of "financial discrimination"; Financial institutions and relevant departments will build digital information platforms through digital technologies represented by big data, cloud computing, blockchain and artificial intelligence. This optimizes the traditional financial audit service process, which is conducive to reducing the problems of information asymmetry and resource mismatch, and optimizing the allocation rate of financial resources.

After China joined the WTO, the trademark law was revised in accordance with the relevant principles of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), and geographical indications were included in the management of China's trademark law. The definition of geographical indications in Chinese laws and regulations adds humanistic elements to the TRIPs Agreement. According to the provisions of Chinese laws and regulations, geographical indication products refer to products produced in a specific region, whose quality, reputation or other characteristics essentially depend on the natural and human factors of the place of origin, and which are named with geographical names after review and approval [3]. Geographical indications have important functions such as source

identification, quality assurance, and advertising. Geographical indications are a powerful tool to promote the commercialization, industrialization and branding of specialty products, which are conducive to promoting regional economic development and assisting rural revitalization.

Brand value refers to the monetary expression of a brand's recognition and trust in consumers' minds. Brand value includes factors such as brand awareness, brand image, brand loyalty, and brand reputation [4]. The value of a brand depends on its position in the market, competitiveness, product quality, service level, etc. The improvement of brand value requires the input of various production and non-production factors, the output and transformation of core results, and ultimately Obtaining consumer value recognition will ultimately bring product premiums and total sales growth to the company [5].

3. Current status of Ginkgo biloba in Pizhou

Ginkgo is a plant of the Ginkgo family and genus Ginkgo. Ginkgo is rich in the active ingredients of ginkgo flavonoids, ginkgolides, and ginkgolic acid; the active ingredients of ginkgo fruit are ginkgo flavonoids and bilobalide; and ginkgo pollen is rich in protein and amino acids in addition to ginkgo flavonoids. Ginkgo is a fast-growing and precious timber species that can be used to make furniture, architectural decorations, cultural appliances, etc. Ginkgo fruit is edible (eating too much can lead to poisoning) and medicinal, used for beauty, relieving cough and reducing phlegm. Ginkgo leaves can be used to make tea, which has the effect of clearing away heat and detoxifying, and can also be used to make pesticides and fertilizers. The ginkgo tree has a graceful crown and a tall trunk. Its leaves are bright green in spring and summer, and turn yellow in autumn, presenting a golden landscape. It is used as a garden tree and street tree, and is of great ornamental value [6].

Pizhou City is one of the five major ginkgo producing areas in China. Pizhou Ginkgo was approved as China's national geographical indication protected product in December 2010. Ginkgo planting in Pizhou has a long history. According to the "Han Painting Elephant Stone" unearthed in Pizhou, the history of ginkgo planting in Pizhou can be traced back to before the Han Dynasty. So far, there are still 12 thousand-year-old ginkgo trees in Pizhou, 69 large ginkgo trees over 500 years old, and 4,160 large ginkgo trees over 100 years old. They are important species resources and landscape resources, with important history, culture, appreciation and science. The area of ginkgo gardens in Pizhou City reaches 500,000 acres, and the total number of ginkgo plants planted is 260 million [7]. There are more than 50 ginkgo processing companies, and their main products include ginkgo ketone, ginkgo wine, ginkgo tea, ginkgo pistachios, etc. Pizhou has deeply explored the ecological resources of ginkgo, carefully created high-quality rural tourism routes with ginkgo characteristics, continuously expanded the industrial chain, and developed the "forest economy". Ginkgo has become a "money tree" for Pizhou's rural economy and farmers to get rid of poverty and become rich.

4. Mechanism of digital finance helping to enhance the brand value of regional geographical indication products

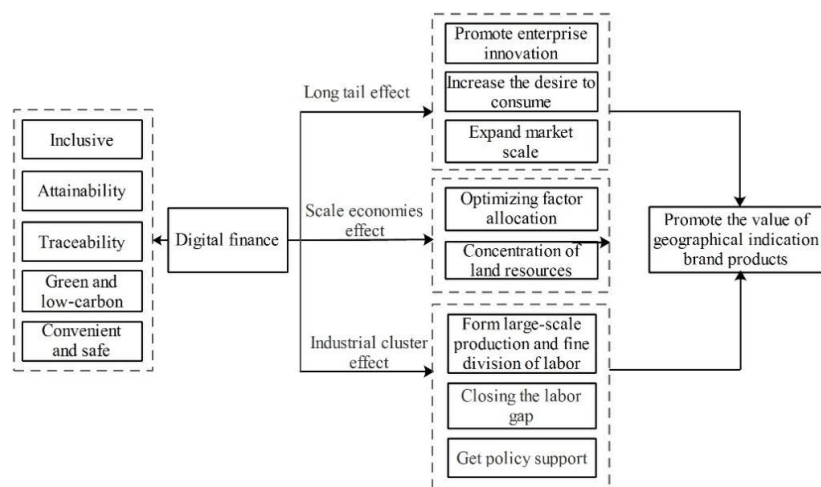


Figure 1: The mechanism of digital finance helping to enhance the value of regional geographical indication brands

The brand development process of China's geographical indication products often faces problems such as lack of experience, bottleneck constraints of factors, insufficient scientific and technological support capabilities, and shortage of industrial chains. This leads to difficulties such as insufficient variety and quality, insufficient brand characteristics, and insufficient product differentiation. Digital finance can alleviate constraints on factors such as capital, technology, talent and information, lead technological innovation and diffusion, promote the formation of a diversified industrial structure and the entire industrial chain of geographical indication products, and further enhance the market value and competitiveness of products. Therefore, digital finance should become an important starting point to enhance the brand value of geographical indication products (Figure 1).

4.1. Digital finance promotes the brand value of geographical indication products through the long tail effect

Diversified financial service products have increased the number of financial participants. Digital finance uses information technology and big data to analyze users' needs and credit, providing them with targeted financial services and flexible, fast, low-threshold financing channels; the blockchain will record all users' transactions and information, improving reach safety and traceability, effectively avoiding financial risks. Digital finance reduces the information asymmetry between supply and demand, reduces the problems of overcapacity and low utilization of production factors, reduces transaction and risk costs, and stimulates entrepreneurial vitality and competitiveness. Digital finance breaks through the limitations of time and space and optimizes the financial supply side, allowing families and individuals in the long-tail group to enjoy consumer financial services. Its streamlined and convenient payment methods save transaction costs such as time, manpower and material resources, and stimulate consumers' desire to consume, thereby promoting consumption. There are more buyers and sellers in the market, space potential is fully realized, and market competition is fierce. Digital finance realizes the survival of the fittest and optimizes industry entities through market-oriented means [8].

In order to maintain their respective market shares, companies need to carry out technological innovation to improve product quality, scientifically coordinate resource allocation and optimize internal management to improve efficiency, and overall improve innovation efficiency to enhance core competitiveness. Product quality is the most fundamental factor in brand value. Through product quality enhancement, consumers' recognition and trust in product brands are enhanced. Full competition among enterprises can help stimulate the vitality of enterprises and provide consumers with products with reasonable prices, high quality and in-depth services.

4.2. Digital finance promotes the improvement of the brand value of geographical indication products through economies of scale

First of all, digital finance accelerates the flow of advanced production factors such as information, capital, and technology among the primary, secondary, and tertiary industries through the integration and aggregation of production factors, optimizes the structure of production factors, and is conducive to improving the efficiency of production and operation activities, thus improving agricultural geographical indications. The market competitiveness of the brand. Secondly, land is the basic resource for the development of agricultural geographical indication brands. Digital finance promotes land circulation, improves land circulation efficiency, expands cultivated land area, realizes large-scale agricultural operations, improves agricultural operation efficiency, and then forms economies of scale. It can reduce production costs and fully unleash the enthusiasm of enterprises, which is conducive to concentrating the overall resources of the region to create geographical brand signs, improving regional driving capabilities, and making the geographical indication product brand jump from low-level to high-level status.

4.3. Digital finance helps enhance the brand value of geographical indication products through the industrial cluster effect

First of all, digital financial innovative financial services work with regional governments to launch differentiated services based on regional characteristics. By solving the problems of difficult and expensive financing for enterprises, they improve the fairness and inclusiveness of financial services, promote the integration of industry and finance, and promote the optimization of industrial structure, after supporting regional industrial clusters in geographical indication origins. An economic network is formed between enterprises, connecting agricultural product e-commerce platforms, farmers, merchants, governments, cooperatives, etc., forming a "multiple-in-one" product brand value community [9].

Enterprises can share resources such as market data, infrastructure, production experience, technology and marketing, increase exchanges and connections, reduce information acquisition errors and transaction costs, and enhance sensitivity to market trends, which is conducive to technological innovation. The production end, circulation end and other stakeholders have established a geographical indication brand value creation model of mutual benefit, resource sharing, collaborative progress, mutual benefit and symbiosis.

As industrial clusters develop and expand, these advantages will attract more related industries and capital to enter, and competition will become stronger, which will help promote the formation of large-scale production of geographical indications of agricultural products and the promotion of geographical indications in raw material procurement, production and processing, sales and marketing, and logistics. Professional division of labor in all aspects of distribution to improve production efficiency and product quality. Secondly, industrial clusters extend the product geographical indication industry chain, effectively integrate industrial resources, and focus on the capital market. Through scientific cultivation, large-scale production, intelligent logistics, and diversified marketing, the whole-chain joint construction gradually integrates resources in all aspects of the industrial chain to achieve an ecological market model that integrates the production, supply and marketing of agricultural products, and enhances the brand value of geographical indication products. A large number of processing companies have entered the region and provided good employment opportunities and even investment opportunities, which will help attract some labor to return and alleviate the dilemma of lack of manpower for the development of product geographical indications. Finally, after the formation of agricultural industry clusters based on geographical indications of products, the cluster areas will have the opportunity to obtain more government policy support and solve the problems of developing geographical indications of agricultural products [10].

5. Strategies to enhance the brand value of “Pizhou Ginkgo” geographical indication

5.1. Overall development of the entire industry chain and industrial cluster management to improve the level of industrialization

The ginkgo industry spans three-level industrial types, having both agricultural attributes and industrial characteristics, as well as the multiple values of the service industry [1]. Different links in the upper, middle and downstream of ginkgo industry should fully develop the advantages of ginkgo resources, build the industrialization development pattern, and build the whole industrial chain of ginkgo. In the upstream planting and production process, we will increase research on the selection and breeding of excellent seedlings, scientifically plan four major planting areas for fruit ginkgo, leaf ginkgo, timber ginkgo and green ornamental ginkgo, adjust the structure of ginkgo, and accelerate the organic ginkgo production base construction, highlighting the agglomeration effect of industrial clusters. At the same time, we will standardize the quality inspection standards for ginkgo leaves, strictly implement product quality inspection and label certification, and improve the controllable and traceable system for ginkgo health and safety assurance. In the mid-stream processing and manufacturing process, we have developed products such as ginkgo health food, biomedicine, cosmetics and skin care, cultural and creative handicrafts, etc., and actively established industry-university- research cooperation relationships with social organizations, universities, scientific research institutions, etc. to continuously improve the added value of the ginkgo industry. Value, implement product differentiation strategy, and strengthen market segmentation. The downstream service industry should fully explore the historical and cultural value of ginkgo, and through the linkage of related industries, based on resource endowment and industrial foundation, coordinate the sales of seedlings, intensive processing, eco-tourism, etc., give full play to ecological advantages, and vigorously develop the "forest economy". Through the extraction and utilization of the nutritional components of ginkgo leaves, we launch ginkgo foods and health care products that meet the needs of urban people, and develop Ginkgo God series wine, ginkgo tea, ginkgo granules and other products.

5.2. Deepen industrial digitalization and strengthen technological empowerment

The development of Pizhou Ginkgo should actively carry out digital and intelligent exploration and promote the upgrading of the industry. First at all, focusing on digital empowerment, we build a smart ginkgo garden through the establishment of modern facility agriculture systems such as information perception, role management, hardware equipment, and service platforms, which runs through the entire process of ginkgo tree variety optimization, scientific planting refinement, and disaster prevention system

construction. Secondly, ginkgo industry should strengthen data application, improve the digital intelligence of the whole link, focus on green production and intelligent equipment, gather data resources of ginkgo industry through upper and lower linkage and multi-cross coordination, and form a comprehensive ginkgo digital intelligent industry from planting, processing, logistics, sales and so on. Next, ginkgo industry should promote the standardized development of related emerging industries, integrate high-quality resources, apply the emerging intelligent Internet of Things technology, establish the application base of Internet of Things of Ginkgo Garden, and promote the deep integration of online and offline with digitalization; increase the attention to ginkgo biloba e-commerce platform transaction, service quality of ginkgo industry and ginkgo culture promotion, so as to improve consumer shopping satisfaction. Good online shopping experience brings value appreciation to the brand, enhances consumers' cultural identity to the brand, and finally establishes the brand loyalty to agricultural products [9].

5.3. Pay attention to the financial attributes of geographical indications and innovate financial services

Financial institutions have built an inclusive financial service system based on regional characteristics that is "based on platform operations, supported by ecological construction, and driven by technological innovation", continue to strengthen financial innovation, and explore a series of "financial models" to help build geographical indication brands. Local financial institutions can take advantage of the financial attributes of geographical indications to innovatively launch geographical indication certification trademark pledge financing services. They use the method of pledging geographical indications and the company's own trademark to transform intangible landmark assets into tangible assets, which effectively promotes the development and utilization of geographical indication trademarks. The Pizhou Municipal Government can also create a "Digital Ginkgo" rural revitalization project. The Pizhou Municipal Government and agricultural-related financial institutions will jointly build a "Digital Ginkgo Financial Service Platform" and launch the exclusive local financial product "Pizhou Ginkgo + Quick and Convenient Loan". Through big data governance and precision credit empowering the industry, after in-depth understanding of customers' needs for financial services, we create a model of "landmark brand protection + food circulation safety + comprehensive financial services" to promote high-quality regional economic development and actively assist rural revitalization. And we can rely on blockchain technology to put an "identity label" on every Pizhou Ginkgo product, and use new financial actions to help solve the phenomenon of counterfeit and shoddy products in the market, enhance the influence and value of the "Pizhou Ginkgo" brand, and bring the Pizhou Ginkgo geographical indication to the new heights.

5.4. The government and market departments jointly promote the brand value of geographical indication products

As a national geographical indication product, "Pizhou Ginkgo" needs not only policy support to enhance its brand value, but also the assistance and guidance of implementation plans. To this end, first of all, the Pizhou government must not only further promote the landmark property rights co-insurance mechanism, but the Market Supervision and Administration Bureau must also issue a detailed construction plan to provide three-dimensional guarantees for the construction of landmark brands, establish and improve the geographical indication product protection system, and promote the industrial chain Standardize production and product quality supervision and traceability management; Secondly, it is necessary to come up with policy support and implementation plans, improve the work system, use modern digital intelligence technology to break "information islands", and improve the comprehensiveness and accuracy of trademark review on e-commerce platforms, so as to reduce shoddy products. At the same time, the market department cooperated with the implementation of the policy to smooth the infringement complaint platform and rights protection channels, improve consumers' shopping satisfaction and enhance customer stickiness. In order to protect the legitimate rights and interests of geographical indications in Pizhou City and maintain the market order and the interests of consumers, it is necessary for the government and the market department to carry out effective coordination supervision and service;thirdly, the government and market departments should strengthen the protection and publicity of geographical indications, and actively promote the promotion of Pizhou Ginkgo's iconic brand by setting up a product promotion platform, organizing and participating in geographical indication product promotion activities, so as to improve the popularity and regional reputation of Pizhou Ginkgo.

6. Conclusion

Ginkgo has unique medicinal and cultural and historical value. Pizhou Ginkgo is a window that displays natural resources with regional characteristics and spreads humanistic history. Digital finance can help increase the value of regional geographical indication brands through the long-tail effect, economies of scale effect and industrial cluster effect. To this end, relevant departments and enterprises need to use digital finance to develop the whole industrial chain and industrial cluster management, and improve the level of industrialization. To deepen the digitalization of ginkgo industry, enterprises need to strengthen the technology authorization, the financial sector attaches importance to the financial attribute of geographical indications and innovates financial services; the government and market departments work together to enhance the market value, consumption value and brand level of ginkgo geographical indications in Nanjing, and promote the rural revitalization and the prosperity of farmers' income.

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