

# Under the Background of "Internet +", Huaiyuan Pomegranate Supply Chain Innovation Helps Rural Revitalization

## -- Take Huaiyuan Pomegranate As an Example

Jiayu Chi, Yuqi Jin, Bingyan Han, Junru Wang

Anhui University of Finance and Economics, Bengbu City, Anhui Province, 233030, China

### Abstract

With the proposal of the rural revitalization strategy and the "Internet +" action plan, it has become our urgent responsibility to promote rural poverty alleviation and realize rural revitalization. Huaiyuan county local characteristics "huaiyuan pomegranate" enjoys the title of national geographical indication, but its to huaiyuan county rural revitalization is not fully shown, we combined with "Internet +" information collection and marketing advantage to explore the new market demand, a wide range of promotion, innovative new products for huaiyuan pomegranate develop new areas, create a new brand polished old brand, make it give full play to the economic benefits, driving the development of local economy, improve the infrastructure construction, boost rural revitalization.

### Keywords

Huaiyuan pomegranate "Internet + agriculture" rural revitalization.

## 1. Foreword

Under the background of "Internet + agriculture", the relationship between agriculture and the Internet is becoming more and more close. With agricultural informatization as the beginning, the Internet has penetrated into every link of traditional agriculture. The integration of the Internet and agricultural products has brought new ideas to agricultural development and stimulated new vitality of agricultural development. On this basis, we turned to a special product in agriculture--geographical indication agricultural products. Huaiyuan pomegranate in Huaiyuan County, Anhui Province, was selected as a national geographical indication agricultural product because of its sweet taste and attractive taste. However, as a local golden signboard, the brand effect and added value of its products are not significant, and there are many problems. The phenomenon of uneven quality and even the degradation of varieties, brand theft and single products emerge in an endless stream, and the promotion of local economic development is not fully shown. Therefore, in the context of "Internet + agriculture", we start from the supply chain structure, optimize and innovate from the origin, product production and processing, marketing and sales, so as to improve the added value of products.

## 2. Huaiyuan pomegranate development status quo

### 2.1. Development trends

Under the background of the Internet, modern agriculture has developed rapidly, and the new production modes and ideas have been quickly transferred to the field of agricultural production, bringing new vitality to the development of the agricultural industry. As the product of the Internet background, rural e-commerce has an impact on agricultural production. In the experimental process, it is found that the supply chain organization mode has a

significant impact on the production technology efficiency of farmers. And the emergence of e-commerce increases the channels for farmers to get rich and drives the growth of urban and rural consumption. In recent years, the poverty alleviation effect of e-commerce has been remarkable, and the aggregation of rural e-commerce has had a positive impact on the industrial revitalization and poverty alleviation in rural areas. It has become an important development path to promote rural entrepreneurship and employment and the industrialization of rural economy, as well as an important way to implement the rural revitalization strategy.

Using the network and supply chain optimization of agricultural products brand marketing propaganda effect, aggregation effect, derivative effect and magnetic field effect, reversed transmission transformation and upgrading of agricultural industry and optimize the industrial chain, improve the local economic structure, boost rural modernization and alleviate social problems such as left-behind children and the elderly, has a disruptive role and potential."Internet +" can effectively solve the problems in the economic development of the agricultural industry, promote social and economic development, and provide assistance for rural production enterprises to increase their income and alleviate poverty.

## **2.2. Current situation of Huaiyuan pomegranate brand**

Huaiyuan County of Anhui Province is located in the transition zone between subtropical zone and warm temperate zone. The semi-humid monsoon climate has the characteristics of north and south. It is located in the hills of the irrigation belt of the Huaihe River Basin. The natural geographical environment advantages are more suitable for pomegranate growth, which can be protected from cold wave, typhoon, rainstorm and other bad weather. Huaiyuan County mainly cultivates and produces ordinary varieties, such as big stupid and pink pomegranate, and three famous pomegranate varieties, such as safflower jade seed, white jade seed and red agate seed. Most of them are soft seed pomegranate, with large particles, juicy, thick sweet and high quality, which has won a wide market in the Yangtze River Delta region. From the perspective of brand life cycle, Huaiyuan pomegranate agricultural products brand is still in the brand growth stage. In recent years, the local government, together with agricultural e-commerce platforms such as Pinduoduo and Taobao, on the one hand, gives farmers corresponding policy support to broaden the national market of Huaiyuan pomegranate; on the other hand, by establishing the multi-angle KOL all media information communication mode matrix, continuously enhances the Huaiyuan pomegranate brand communication and expands the construction of the whole industrial chain of Huaiyuan pomegranate. In the brand growth period, the problem of lagging brand communication strategy is significant, and the scientific development planning of brand differentiation and diversification needs to be done well.

## **2.3. Status quo of market opening**

(1) Offline market. There is--pomegranate sales street in Huaiyuan County, which is called pomegranate Street by local people. It is named because it is a gathering place for farmers and merchants to sell pomegranates. The street can be sold by 250~300 merchants. Every September to November is the hot season for pomegranate sales, and many outsiders come to it. Huaiyuan pomegranate is mainly sold to Shanghai, Zhejiang, Jiangsu, Fujian, Henan and other provinces and cities, and it is sold to Hefei, Bengbu, Fuyang, Huainan, Suzhou and other cities. Among them, not only including fruit sellers, but also a large number of related pomegranate deep processing products enterprises to buy.

(2) Online market. Using the Internet sales platform can provide a broader sales channel for Huaiyuan pomegranate and deep processing products, solve regional restrictions, and increase brand exposure and popularity. Through the publicity and sales of huaiyuan County people's government website, enterprise website, Taobao, WeChat and other platforms, more consumers can be attracted and further promote the development of Huaiyuan pomegranate

industry. This multi-channel sales method can better meet the needs of different consumers and promote the comprehensive development of the pomegranate industry.

#### **2.4. Deep processing situation of products**

The deep-processing product category is relatively single. The market category of Huaiyuan pomegranate deep processing products is relatively single. Except for the main deep processing products of pomegranate fruit wine, few new products have come out. The existing market products lack innovation, and it is difficult to attract and adapt to the new era consumer market in terms of taste, packaging, advertising and other aspects, and the product sales and market share decline

### **3. Current situation of Huaiyuan pomegranate supply chain**

Agricultural products supply chain is a complex and dynamic chain process, covering all links of agricultural products from prenatal to postpartum. To ensure efficiency and quality, this supply chain must operate effectively. In this process, the interest orientation of producers, sellers and consumer parties needs to converge to realize the smooth operation of the supply chain.

Bengbu Huaiyuan Pomegranate, as the star agricultural product, has won the honor of "National Geographic Indication Protection Products". According to statistics, by 2016, its overall planting area in Huaiyuan County has reached 35,000 mu, and its output has exceeded more than 35 million kg, equivalent to about 280 million yuan. After consulting the information, the Internet of things technology should be the main way of this agricultural product marketing. The so-called Internet of Things technology refers to the various systems that constitute the Huaiyuan pomegranate marketing that are successively distributed throughout the supply chain process. This will involve different groups of people, such as producers, sellers and consumers. After that, these individual systems will match and belong to these different population groups, thus further dividing them into different operating platforms. On the whole, this is a closely connected network. In fact, the correlation between each platform is weak and the independence is strong. In this case, if there are obstacles or problems in any link, the coherence of the whole supply chain will be broken, and the speed of information exchange will be limited. Some core resources such as trading information, market demand information and price information will be difficult to share quickly.

### **4. Huaiyuan characteristic pomegranate industrialization development disadvantages**

#### **4.1. The publicity is not high and less visibility**

Although Huaiyuan pomegranate is of good quality, it lacks publicity and is very limited. Huaiyuan county pomegranate rarely use of new media publicity, only rely on quality and reputation to expand sales. In today's society, there is much information, how to attract consumers' attention has become one of the important factors in product sales. The era of "wine needs no bush" has long gone, and the lack of publicity can easily lead to no interest. But Huaiyuan's pomegranate just ignored the important factor of publicity. Although Huaiyuan's pomegranate won the national agricultural products award, due to the lack of publicity, the popularity of Huaiyuan pomegranate is limited to the northern part of Anhui province, the surrounding provinces. In this way, even if Huaiyuan pomegranate and its related products are produced, they will only be overstocked in the warehouse, resulting in a waste of resources. Therefore, the small popularity is a major obstacle to the industrialization of pomegranate in this area.

#### **4.2. There are more retail investors, small concentration areas, and uneven quality.**

Most of the farmers in Huaiyuan County are still a few mu of land, planting in families as a unit, and mainly rely on the labor force. However, due to the different production technology and level of each household, there are some differences in the quality of Huaiyuan pomegranate. And such a planting method is not conducive to the unified planning and management.

In most areas of Huaiyuan County, pomegranate is planted as a family unit, basically retaining the land left before. And the plantation is just next to the housing. As a result, a large part of Huaiyuan County is still scattered planting, without large-scale planting, which is not conducive to centralized management.

As a comparison, Mengzi pomegranate has 100,000 mu of characteristic modern agriculture demonstration area. Using a variety of modern agricultural production methods, science and technology into each link of agricultural production, and agriculture and the tertiary industry, the establishment of Mengzi manor, the development of tourism, let Mengzi pomegranate out of the mountains, fragrance at home and abroad.

#### **4.3. The quality of the employees is generally not high**

Most of the farmers in Huaiyuan County are middle-aged and elderly people over 50 years old, and generally have not received higher education. Planting techniques are all handed down from generation to generation. There is a lack of technical expertise, and the agricultural experts sent by the government can only conduct research and provide new technologies, rather than help in the planting areas for a long time. Farmers can only learn relevant technologies from the experts, but can not study them by themselves, so the pomegranate in Huaiyuan County is insufficient to form an industrialization scale.

### **5. Huaiyuan pomegranate problems in the process of marketing**

Because the preservation period of agricultural products is shorter relative to the general commodities, there are more factors affecting their quality. Perishable and perishable has become a "roadblock" in the process of agricultural products marketing. Combined with the current supply and marketing process of Huaiyuan pomegranate in Bengbu city, there are the following problems in the whole marketing process:

(1) Agricultural products need to experience many times in the process of circulation of collection and distribution, and the efficiency cannot be guaranteed. The origin of the produce is often concentrated in the suburbs, far away from where the goods are sold. Because the journey is far, and different, so agricultural products need to experience many times in the process of circulation distribution. For example, Huaiyuan pomegranate is rich in the pomegranate garden planting area of Huaiyuan County, Bengbu City, Anhui Province. However, due to the distance of its distribution channels, the mature Huaiyuan pomegranate wine will experience many sorting and circulation. This needs to go through the local producers, origin suppliers, origin sellers, foreign suppliers, foreign sellers and other links. A lot of distribution makes the fresh fruit has different degrees of loss, sometimes the loss rate is as high as 30%. The overall profit loss is not optimistic either.

(2) There is an "information asymmetry" between the suppliers of agricultural products. The main factor affecting the price of agricultural products lies in the supply and demand of the market. When the corresponding agricultural products are produced in the origin, various groups in the supply chain have a certain "selfish" mentality, so there may be some concealment in the process of mutual exchange and careless information, which causes the phenomenon of "information asymmetry" between suppliers. Leading to some participants being able to use the information they have to gain more benefits, while others may be at a disadvantage because

of insufficient information. This is especially evident in agricultural markets, where the price and quality of produce are often influenced by multiple factors such as supply, seasonal variation, weather conditions, and this information is not always communicated fully transparently to every market participant.

(3) Supply chain information security is reduced, and product quality assurance is weakened. Because there are multiple links and participants, the possibility of information leakage is relatively high. The traditional marketing process of agricultural products is mostly chain, so there are some information leakage in the transmission of each link, which makes the information security in the supply chain of traditional agricultural products not guaranteed. In addition, the marketing characteristics of traditional agricultural products make each single product from production to transportation to retail. Once the product quality problems, the fundamental source generally can not be accurately and quickly determined, the quality of the product accountability is difficult, quality assurance.

## **6. Huaiyuan pomegranate development opportunities**

### **6.1. The establishment of modern agricultural demonstration areas**

Huaiyuan set up an agricultural demonstration area, and adopted the planting layout of "two points and one line", which has obvious advantages for expanding the scale of planting and realizing intensive production. Through the centralized construction of planting bases, we can make full use of the resources and advantages in the region to realize large-scale planting and production, and improve production efficiency and product quality. At the same time, the establishment of the demonstration area also provides a better development platform and support for agricultural enterprises and large households, and promotes the agglomeration and optimization of the agricultural industry.

This layout mode helps to form the extension and improvement of the industrial chain, and enhance the competitiveness and market share of agricultural products. The government's investment and construction also provides important policy support and guarantee for agricultural development, which is conducive to attracting more investment and resources into the agricultural field and promoting the process of agricultural modernization. In general, such an agricultural development pattern is conducive to promoting the development of the local agricultural economy, improving farmers' income level, and promoting the implementation of the rural revitalization strategy.

In order to enhance the brand awareness, the Huaiyuan County government also launched the "Pomegranate Culture Festival". Local residents are invited to participate together with the people in other areas. Through novel and interesting activities, online and offline activities are integrated to develop observation activities. Expand the popularity of Huaiyuan pomegranate, expand sales.

### **6.2. Support of new technologies**

According to the data, relying on the help of agricultural experts, the establishment of Huaiyuan pomegranate mother garden, nursery, seedling base in Huaiyuan. Develop new varieties and introduce new planting technologies to carry out related tests. And the pomegranate fruit peeling juicer was developed in China to provide the possibility of making pomegranate juice, and improve the added value of pomegranate, improve the brand value of Huaiyuan pomegranate. This has also laid a good foundation for extending the pomegranate industry chain in Huaiyuan County.

### 6.3. The rapid development of networking

With the rapid development of the Internet and e-commerce services, it is conducive to the market expansion of Huaiyuan pomegranate. The Huaiyuan County government can make use of the "Internet +" model and the Internet e-commerce platform to open up the all-channel sales of pomegranate. Taking advantage of the fast and wide range of Internet information dissemination and the convenience of e-commerce logistics, the Internet is used to advertise, expand the popularity of Huaiyuan pomegranate, and promote the transformation of the traditional sales mode of Huaiyuan pomegranate to a new sales mode. It is beneficial to increase sales channels and increase the actual income of fruit farmers.

## 7. Huaiyuan pomegranate expansion path and scheme

(1) Pay attention to ecological construction and green planting. Huaiyuan County should pay attention to ecological construction, practice the development concept of "clear water and green mountains are golden mountains and silver mountains", take ecology as the traction, develop modern agriculture and forest ecology, vigorously promote the standardized planting of the whole process of pomegranate, improve the protection measures of pomegranate brand, and accelerate the construction of specialized pomegranate planting demonstration areas such as Jingshan and Zhucheng Park. Develop circular agriculture and other green agriculture, on the one hand, to protect the environment green ecological, on the other hand conform to the "doctrine" standard of pollution-free green agricultural products more can meet the market choice, so Bengbu pomegranate garden growers should further popularize promote green cultivation, improve the quality of pomegranate, promote bosom far pomegranate agricultural products brand construction.

(2) Develop sightseeing agriculture and experience-type picking. Huaiyuan County can develop the leisure and experience economy according to local conditions. Suqian city of Jiangsu province with as a molecule of jianghuai biome, with green tourism as the carrier, started "landscape, slow life, northern taste, health" slogan, shaping the ecological economic park template, as "green water castle peak" and "jinshan yinshan" coordinated development of model, has copied to Jiangsu province, Zhejiang province. Suqian is located in the mountains, huaiyuan county is located in the wanbei mountains, with jingshan mountain area, close to the area, the geographical conditions have similarities, huaiyuan county can copy Suqian excellent model, through huaiyuan pomegranate agricultural products brand building resources highland, developing tourism industry, experience, develop tourism agriculture, tourism, tourism, in pomegranate mature season invite visitors to participate in experiential picking, make huaiyuan county in agriculture grafting tourism cooperation harvest dividends.

(3) Use of agricultural products e-commerce, live broadcast with goods. Huaiyuan County government can make use of agricultural products e-commerce platforms such as Pinduoduo and Taobao to broaden the sales channels of featured agricultural products such as pomegranate. Relying on the advantages of the e-commerce platform of Jiangsu, Zhejiang and Shanghai, it can further enhance the popularity and sales volume of Huaiyuan pomegranate nationwide. Fruit farmers who plant Huaiyuan pomegranate can actively participate in the Pinduoduo "Agricultural Assistance Plan" to get more sales channels and exposure opportunities, so that residents all over the country can taste authentic Huaiyuan pomegranate. Fruit growers also can use agricultural electric business platform online and online TikTok platform, through the unpacking, a clap, packaging packaging, stick code order operation process allows consumers to use 5G Internet transmission, Internet and other real-time interaction technology to see to buy agricultural products after physical order, will choose agricultural products physical copy to the online scene, maximum restore the offline shopping experience.

(4) Processing of pomegranate derivatives, rich categories. With the help of national geographical indication protection products, strengthening the management of Huaiyuan pomegranate identity authentication is an important measure to ensure the product quality and enhance the brand image. Cooperate with leading pomegranate processing enterprises such as Asia Pacific, Outfruit and Tianzhao to build a pomegranate deep processing industry cluster, which will help to improve the industrial influence and competitiveness. Cooperation with pomegranate fruit tea and pomegranate flavor sparkling water with famous beverage brands, as well as skin care products series with skin care brands, can expand the market share of pomegranate products and meet the diversified needs of consumers. In the context of the big health industry, extending the pomegranate deep processing industry chain and building a well-known pomegranate deep processing base in China will help to promote the sustainable development and prosperity of the local pomegranate industry.

(5) Strengthen the training of employees and improve the quality of the labor force. Training is very important to improve the technical level and innovation awareness of growers, especially for older growers who lack systematic training. The government can send agricultural experts to the countryside for technical training, emphasizing the importance of innovation and modern management, and stimulating farmers' enthusiasm and creativity in learning. In addition, attracting young people to return to their hometowns is also a key point. Their high acceptance of new technologies can bring about new ideas and methods. By providing young people with agricultural technology and industrial industry training, they can be promoted to participate in the deep processing and planting field of the pomegranate industry, improve the technical content and added value of the overall industry, and then promote the sustainable development of the pomegranate industry in Huaiyuan.

(6) Introduce blockchain technology. Block chain technology development and mature, its application to agricultural cultivation, agricultural products sales, is advantageous to the agricultural breeding, planting, processing, processing, packaging, market circulation and a series of links of real-time monitoring management, and block chain tamper ability can prevent products are on the way, and can quickly identify product authenticity, recall products, consumers safely to buy. The imtamability and transparency of blockchain can ensure the security and authenticity of products, which is very important to improve consumer trust and ensure product quality. Using QR QR code, RFID RF identification and other technologies, establishing agricultural product blockchain traceability system, and integrating it into the enterprise supply chain management and ERP system, can improve the intelligent level of pomegranate production, and further increase the competitiveness of products. Such a practice for Huaiyuan pomegranate enterprises, will help to enhance the brand image, increase sales, and promote the sustainable development of the industry. Through the online virtual community management, strengthen the Huaiyuan pomegranate agricultural products brand standard system, improve the pomegranate production intelligence, management network, management data, online service level.

(7) Strengthen technical support to promote the application of advanced technology among farmers, improve farmers' understanding of pest control, fruit tree fertilization, fruit bagging and other technologies, strengthen technical training for pomegranate professionals, contractors and management personnel, and comprehensively improve the planting level. The government should organize and integrate and actively build the mutual cooperation among pomegranate deep processing enterprises in Huaiyuan County, coordinate the division of labor, and promote the formation of strong cooperation rather than vicious competition to accelerate the pace of innovation and produce more high value-added products.

## 8. Conclusion

Rural human resources development is very important to the development of rural regional economy. Government departments can strengthen the development of vocational skills training and education for the rural population through scientific planning and policy support, so as to improve the comprehensive quality of the rural population and promote the benign development of the rural economy.

As an excellent agricultural product brand in Anhui Province, Huaiyuan pomegranate has a good reputation and wide recognition in the market, and has great development potential. During the "14th Five-Year Plan" period, Huaiyuan County can make full use of its green ecological advantages, develop a green economy, and improve the output and quality of pomegranates. At the same time, the dislocation development strategy can be implemented to integrate pomegranate planting, processing, sales, tourism and big health industry, and promote the deep integration of agriculture and other industries. For example, to create characteristic experiential picking pomegranate orchards, promote sightseeing tourism and beautiful rural construction, and integrate the concept of green food into the development of pomegranate food. Seize the opportunity, overcome the difficulties, and strive to build the pomegranate industry into the economic pillar industry of Huaiyuan County.

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