

# Application Analysis of Agricultural Big Data in Agricultural Economic Management

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**Abstract:** with the development of the times, big data has been gradually applied in various fields, and the importance of big data in agricultural economy is constantly deepening, the company's agricultural product sales and other steps have formed a very important impact. The article explains that we all need to use big data to improve the old agricultural economic management process system, in production and life reflects greater commercial value.

**Key Words:** Big Data; Agricultural economic management; Application

## 1. Introduction

Big data is to solve the huge amount of information in the network data, the use of old data solution optimization, so that access to hidden content and value, so, Big Data Technology is an intangible asset. Big data provides a huge amount of information and data materials to major companies. It is the source market, cooperative enterprises, customers and other major information and content absorbed by the companies in the process of operation and development, with a large number of features, such as cumbersome systems, so the old company's data solution technology and information equipment can not fill the competitive industry under the company's marketing

needs <sup>[1]</sup>. With the development of information technology, most companies feel the value of big data, exploring the information in big data can give effective reference information to the company's operation and management strategy in very little time, and improve the business plan. Big data is a product of the changing nature of the Internet, and there is no one organization that has a clear position for it.

## 2. Application Status of Agricultural Big Data in Agricultural Economic Management

As a key information resource, big data has been



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gradually integrated into all walks of life and embodies its due value. Embedding big data technology into agricultural management can effectively reduce farmers' production capital and activity costs, increase the quality of agricultural products, and promote social and economic progress. Therefore, companies, especially large companies, need to take the initiative to improve the data and information system, collect all the data and information in the process of economic activities, assist farmers to optimize the planting steps and carry out accurate marketing activities, increase the commercial value of agricultural products. Big data also continues to rise in agricultural economic management<sup>[2]</sup>.

On the basis of informationization, the company can give accurate guidance to farmers in the planting process, to the exact time of planting, the types of products planted, when to harvest, and so on, thus increasing the production efficiency of agricultural products, it can also provide more profit for farmers. With the emergence of e-commerce jobs, a number of agricultural e-commerce platforms that use agricultural products as their main marketing items have gradually emerged in the country. If fresh fruits and fresh JD are used, with the help of big data technology, these companies can optimize the delivery of fresh agricultural products, enhance the precision of marketing standards rate while exploring the potential customers, select the right products, and then enhance the real benefits of agricultural e-commerce. Compared with the related departments, the development of agricultural big data can improve the control ability of the related departments, and then carry out the future planning of agricultural planting activities more quickly.

Big data is gradually affecting all aspects of agricultural economic activities. With the development and changes of the agricultural field and the rising economic level, more and more companies are entering the agricultural market in turn, under this premise, which company has the big data technology, has the massive customer behavior information, which com-

pany has mastered the future<sup>[3]</sup>. It is the basis of designing personalized sales strategy for agricultural e-commerce companies to study the purchasing behavior of customers by means of big data. The use of big data technology can assist companies in exploring information about the behaviour of their customers' mobile phones and computers, enhance the effectiveness of agricultural companies' marketing campaigns, and optimise ageing farming processes<sup>[4]</sup>. Therefore, big data systems are constantly changing the old agricultural economic farming process framework, in the reality and improvement of a great market value.

### **3. A Study of the Problems of Traditional Agricultural Economic Activity**

In the old economic farming links of farmers, the production and production of crops are usually affected by external factors such as weather, the surrounding environment, topography and so on, and the stability of cultivation is not high, the actual livelihood of farmers can not be guaranteed<sup>[5]</sup>. For example, typhoon weather and heavy rain in June and July will adversely affect rice cultivation in most parts of the south. In July 2017, in July 2017, floods in the Dongting Lake region caused severe damage to rice cultivation by farmers in the region. On the other hand, because farmers can not obtain accurate market information, the type of agricultural products can not be carried out a reasonable judgment, resulting in the stage of crop maturity produce too much, the only way to do this is to cut prices and sell at a discount, though there are still a lot of crops that don't sell well, leading to backlogs and rot. Under the old marketing methods, crop processing and marketing companies usually go to rural areas to collect a large number of products and fruits, and then sell to local people, school districts, major processing plants and other places.

In general, agricultural companies have a stable customer base and are limited by the quality of their produce and the process of transporting it to remote ar-

eas. If too many crops are produced in one place, there will be intense pressure on industry to compete, reducing the profit margins of agricultural companies and preventing them from gaining a stable market share. The specific supply chain involves farmers, processing companies, marketing companies and end customers. Because most of the crops are just-needed products, the customer's value sensitivity is low. However, in the old agricultural supply chain, the market information can not be symmetrical. It is very important for customers not to know whether the crops they buy are safe or not, and whether the value and quality are guaranteed. Compared to farmers, it is also not clear whether the company's acquisition value is optimal, and whether the direct sale of crops to the market can be more profitable. Information asymmetry continues to plague the development of domestic crop economic activities.

#### **4. Application Countermeasures of Big Data Technology in Agricultural Economic Management**

##### **4.1 Agricultural Big Data Drives the Scientific Development of Agriculture**

Our country is a famous agricultural country. The change and development of agricultural economy are closely related to all people. Agricultural planting activities not only bring abundant food to the people, it is also the basis of the rest of the development involving the agricultural field <sup>[6]</sup>. Agricultural production and marketing is essentially a link of artificial and natural reproduction. Leaving aside the role of agricultural workers, the force majeure factor has the highest impact on agricultural cultivation activities, it includes natural factors such as weather, soil and terrain, which are unique to the agricultural economy. Because this part of the natural formation of factors can not be controlled, so the agricultural cultivation of marketing has a part of the adverse impact. In the past, old farming was taught entirely by experienced old people. However, nowadays, the old farming ex-

perience is really far behind and can not meet the needs of modern agricultural production, there is an urgent need for more precise and rational farming methods and techniques. Therefore, the application of big data in the cultivation process is to study, plan and solve the data of all steps of agricultural cultivation, not omitting any one planting step, with the help of agricultural big data feedback specific, overall planting status, timely detection, accurately reflect and coordinate the planting structure, optimize the structure of crop industry. With the aid of agricultural big data, it can also judge the change of agricultural planting climate. The research of using big data can quickly improve the accuracy and timeliness of judgment and prevent the loss caused by the emergence of unexpected problems. Research tasks include pest control, fertilization and irrigation. Therefore, the application of agricultural big data in agricultural economic management has promoted the rapid development of agriculture, from a long-term perspective, also has a very far-reaching significance.

##### **4.2 Help Agriculture E-commerce Platform for Accurate Advertising Recommendations**

With the help of big data technology, agricultural e-commerce platforms can use servers to complete upgrades, and carry out burial point collection for customer behavior information, so that enterprises can obtain more angles of customer data, can also be more accurate positioning of the target customer base, reduce product sales costs, improve customer conversion rate. On the one hand, by targeting groups of customers, companies can target groups of advertisers more precisely, thereby eliminating the large amount of advertising dollars that result from inaccurate targeting <sup>[7]</sup>. For example, for groups who like to check their email, send and receive emails, for high-demand customers to complete regular phone calls and wechat greetings, communicate with customers frequently, and enhance customer engagement, increase interactivity. On the other hand, for each customer's hobby, the company can carry out accurate push, for

example, for customers who purchase imported agricultural products from e-commerce platforms for a long time to push high-level organic crops, push campaign products to customers who prefer to purchase common fresh vegetables and fruit crops, thus enhancing the targeted advertising and marketing efficiency. From the point of view of practice, the adoption of accurate advertising push technology by agricultural e-commerce enterprises can gradually enhance the interaction between the company and its internal customers, and give customers a better advertising experience, eliminate spam, spam wechat harassment.

#### 4.3 Focus on New Media Marketing

In the big data world, agricultural e-commerce companies need to keep up with new media marketing. On one hand, e-commerce platforms must organize new media sales teams, support employees to regularly deliver high-quality new media theme recommendations, and track the quality of fresh crops, cold chain technology ensures the freshness of agricultural products (see Figure 3). Thus attracting the attention of a large number of customers, and to carry out the standard training of employees, forming the concept of active dissemination, for example, SF fresh use of Alipay and wechat system for a wide range of recommendations, provide customers and potential customers with accurate crop profiles, description of the types, while regular crop discount activities, etc., to attract customers to purchase. The company also needs to enhance the interworking ability of the company account and the personal account, maximizes the promotion effect. On the other hand, the number of new media recommendations should be optimized. A large number of spam recommendations will make customers hate, and a small number of push and no way to attract customers' attention. Research has shown that making recommendations in your spare time is an easy way to get customers' attention. Therefore, the time between noon and after 7 pm is the most effective time to promote the process<sup>[8]</sup>. In addition, agricultural e-commerce companies also need to take the initiative to

invite customers to visit production bases, refrigerated warehouses, and processing plants to promote company culture, it can also be used to enhance customer communication to increase customer stickiness, build a lasting and long-term relationship, better maintain the image of agricultural companies.

## 5. Conclusion

With the continuous application of big data technology in agricultural economic management, it also has a serious impact on the domestic old agricultural economy. Many e-commerce companies participate in the marketing and processing of crops, reducing the market value of crops and bringing more convenience to farmers. Big data technology can better guide farmers to carry out agricultural production activities, and it can also assist companies to carry out crop marketing activities more efficiently, and provide a strong guarantee for the development of crop economic activities.

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