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Innovation of Agricultural Products and Wheat E-commerce Application Technology Based on Complex Adaptive System

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Abstract: At present, the e-commerce of agricultural products and wheat has begun to be popularized all over the country, but the innovation level and level of relevant e-commerce application technology have been too low because only the technology and several irrelevant factors are considered. Therefore, it is necessary to carry out research on the application technology innovation of agricultural products and wheat e-commerce based on complex adaptation system. The purpose of this article is to solve how to realize the agricultural products based on the complex adaptive system wheat e-commerce application problems of technological innovation, describes the wheat e-commerce of agricultural products based on the complex adaptive system application technology innovation and its stimulus - response CAS model, based on the complex adaptive system of agricultural products is discussed wheat e-commerce application of the concept, theory and implementation method of technology innovation. The research results show that the application technology innovation of agricultural products and wheat e-commerce based on complex adaptation system needs to clarify the influencing factors and innovation elements of agricultural products and wheat e-commerce technology innovation. The main organizational structure of agricultural products and wheat e-commerce application technology innovation is determined according to different levels. According to market research and experimental analysis, this innovative implementation method can effectively improve the application technology innovation rate of agricultural products and wheat e-commerce up to 15%, and increase the relevant income of agricultural products and wheat e-commerce by about 5%.

1. Introduction

At present, China's research on e-commerce of agricultural products is still relatively small, especially the research on e-commerce of agricultural products and wheat is almost [1]. This article has a very important theoretical and practical significance for the research of agricultural products. Agricultural product e-commerce provides new ideas for agricultural product marketing [2-3]. The emergence of agricultural product e-commerce can reduce information acquisition costs, save circulation costs and expand the scope of transactions, greatly reducing the difficulty of agricultural product marketing coefficient [4-6]. In addition, e-commerce of agricultural products is an important means to enhance the competitiveness of agricultural products. With the change of people's consumption concept and social progress, agricultural products face greater challenges [7]. Agricultural product e-commerce can reduce the intermediate links, allowing producers and consumers to communicate more conveniently and understand the market in a timely manner, so that the produced agricultural products can better meet market demand and be more flexible to market changes [8].

Technical innovation is particularly important for the development of agricultural products and wheat e-commerce. Innovation is also called creation and innovation. This concept was originally derived from the "innovation theory" of the American Austrian economist Schumpeter, whose view is: innovation is in a new system the introduction of "new combination" is "change of production function" [9]. Modern innovation theory is derived and developed based on Schumpeter's innovation theory. Specifically, innovation is a collective term for creation and innovation. Creation refers to the generation of new ideas and concepts; innovation refers to the application of new ideas and concepts [10]. In this sense, creation is the precursor of innovation, and innovation is the follow-up of creation. Innovation is not an isolated concept, innovation is comprehensive. As the main body of innovation, the connotation of innovation is very rich. These innovations interact, influence and promote each other, forming an organic whole of technological innovation [11].

In this paper, we research the innovation of agricultural wheat e-commerce application technology based on complex adaptive system. Among them, ZHANG gave a detailed introduction to the current development of agricultural product e-commerce application technology and research status, analyzed the existing problems in the development of wheat e-commerce platform, and elaborated related research methods and solutions [12]. In his article, Sharma proposed the research significance and research status of agricultural and wheat e-commerce application technology innovation, and explained the basic principles of commonly used related innovation methods, and analyzed the problems of these technological innovation methods, and also showed that research on agricultural products The significance and importance of the development of applied technology innovations have made solutions to improvements and problems [13]. In the article, W elaborated on the basic principles and development status of complex adaptive systems and e-commerce, and elaborated on its application status and related issues in agriculture [14]. Tadele proposed the stimulus-response CAS model and the concept, theory and implementation method of agricultural wheat electronic commerce application technology innovation based on complex adaptive system [15].

In short, this article discusses the main research content of agricultural wheat electronic commerce application technology innovation based on complex adaptive system. Specifically, the main research content of this article is roughly divided into five parts: The first part is the introduction part, which aims to make a systematic review of the main research content of this article from the research background, research purpose and research ideas and methods; the second part is The theoretical basis, a detailed and systematic summary of the current research status of agricultural product wheat e-commerce application technology innovation [16-17]. The third part is

related research. Through querying data and conducting relevant experiments, it elaborated the advantages and disadvantages of agricultural wheat e-commerce application technology innovation based on complex adaptive system. The fourth part is the analysis of the data. Through specific survey data and research results, the main structure of agricultural product wheat e-commerce application technology innovation is determined at different levels. Increasing the investment of innovation funds according to the structure level will effectively improve the related technology Feasibility and excellence; the fifth part is the summary and suggestion of this article, which is the summary of the results of the article and the prospect of further improvement.

2. Agricultural Products and Wheat E-commerce Overview

2.1. E-commerce Concepts and Models

E-commerce mainly refers to the use of the Internet as a platform, the use of electronic equipment and network information-related technologies for business trade. The definition of e-commerce is not completely unified in various countries and fields, but no matter how you define e-commerce, the key point is that the business model that uses electronic information equipment and network information technology in business activities. E-commerce is divided into broad and narrow definitions. Broad e-commerce refers to conducting business activities through electronic means; narrow e-commerce refers to engaging in business activities through electronic tools such as the Internet. The difference is that narrow e-commerce needs to be conducted on the Internet The four main elements of business activities that constitute e-commerce are products, shopping malls, logistics and consumers. E-commerce transactions mainly rely on transaction platforms, platform operators, site operators and payment systems to complete. The trading platform is a third-party trading platform, a network information service platform that provides transaction information and service information for both parties to the transaction in e-commerce activities; the platform operator is a legal person of a third-party trading platform approved by the Ministry of Industry and Commerce Management; Legal persons or organizations engaged in transactions on third-party trading platforms; payment systems are institutions that provide payment and clearing services on trading platforms.

In the specific operation process of e-commerce, due to different business strategies and operation models and continuously updated information technology, the e-commerce model has produced many different types, but generally speaking, the most important one in the e-commerce model is the enterprise (Business), Agents and consumers, through the relationship between the three, can be divided into a variety of e-commerce models such as ABC, B2B, B2C, C2C, O2O, etc. Agricultural e-commerce is to apply the e-commerce model to agricultural production, circulation, sales, payment and other links. It is a new agricultural economic model. Agricultural e-commerce plays an important role in achieving the comprehensive development of agricultural information. The e-commerce model can take advantage of the accurate and rapid information circulation of all aspects of agriculture to better integrate producers and consumer markets, and solve many of the shortcomings of information asymmetry and lag in the supply and demand process of traditional agriculture in the past. Guides agricultural production and sales in a targeted manner. Agricultural e-commerce will think that traditional agricultural sales are completely offline from the Internet. Agricultural e-commerce is not only reflected in the sales of agricultural products, but also includes mechanization, electronic production, electronic channel payment and circulation of funds, and trade on the Internet. Negotiations and rapid sharing of agricultural technology information and agricultural market information, etc., through a series of efficient means to reduce the cost of production, circulation and sales of the entire agricultural product.

2.2. Agricultural E-commerce's Significance and Application Overview for Agricultural Development

From the meaning of industrial technological innovation, the formation and improvement of industrial technological innovation capabilities are realized in the continuous cycle of new technologies and new processes from the generation, application, and industrialization. result. Therefore, for the evaluation of agricultural bio-industry technological innovation capability, this article focuses on the entire process of industrial technological innovation capability formation, grasps the overall industrial technological innovation through process research, and takes into account the high investment, high knowledge, and high policy of agricultural bio-industry technological innovation Influence and other characteristics, from the following aspects to build an evaluation index system of agricultural bio-industry technological innovation: First, the resource allocation capacity of industrial technological innovation. It refers to the basic ability of the industry for technological innovation. Overall, the number, frequency and level of technological innovation activities undertaken by the industry are the concrete manifestations of the technological innovation capability of the entire industry, while the number, frequency and level of technological innovation activities are determined by the level of scientific and technological resources it possesses. Therefore, it is the most basic influencing factor of industrial technological innovation. This part is mainly to measure the technological innovation potential of the evaluated objects, that is, the allocation of resources in the process of technological innovation activities. This allocation includes aspects such as manpower, technology and capital. The second is research and development capabilities. Mainly refers to the overall level of research and development in the process of industrial technological innovation.

It not only represents the actual level that an industry's technological innovation capability has reached, but also affects the industry's future technological innovation capability. It is the most direct influencing factor and the most critical link in industrial technological innovation. The third is the transformation output capacity of technological innovation. It not only reflects the result of the transformation of scientific research achievements, but also is the industrial economic foundation supporting technological innovation. The economic support of an industry can not only affect the behavior of all participants in innovation activities, but also have an obvious role in promoting or restricting the formation and development of the industry's innovation awareness and innovation culture. Therefore, there is a clear positive correlation between the support of industrial economy and technological innovation. This part reflects the direct or indirect results of the actual output of technological innovation in agricultural bio-industry in terms of innovation output. The fourth is the innovation policy support. It refers to the ability of innovation policies and systems to support industrial technological innovation. Because agricultural bio-industry technological innovation is very sensitive to the policy environment, it directly affects the enthusiasm of the innovation subject and the process of innovation. The practice of technological innovation at home and abroad has proved that the innovation policy environment has a strong role in promoting or restricting technological innovation capabilities, and there is a clear correlation between the two. It should be noted that some policies have a certain restrictive effect on innovation, but considering that its effect has been reflected in the field of resource allocation, research and development, and industrialization, in order to avoid excessive measurement, this article will support innovation Effect inspection.

3. Theory of Complex Adaptive Systems

3.1. The Origin and Development of Complexity Science

With the development of human society and the advancement of science and technology, people clearly feel that their understanding of the world is becoming more and more blurred. How can a fertilized egg develop into a human body with various organs; what are the reasons for the appearance of beautiful snowflakes and Bernal patterns? Is it possible to predict the changing atmosphere; why the stock market has attracted the attention of countless people. ; The economic effects of the same technology in different countries are quite different; the rapid development of computer technology and network technology has brought the distance of the global people to the nearest while making us face the confusion of exploring massive information. The curiosity and sense of mission of the nature continue to inspire scientists to think about the following questions: What is the fundamental driving force of the origin of life? Can we accurately predict the weather and stock market changes? Can our planet continue to develop? Can the neighbors be friendly and friendly between countries? Is there a real-world harmony? Do these colorful and complex phenomena follow the same laws? If the research on the above phenomena and problems is entirely dependent on the reductionism and equilibrium theory created by Newton and others, it is impossible to get a perfect answer, because in The relationships and interactions between the parts in these systems are more important than the parts themselves, science They call this kind of problem a complexity problem.

This science is mainly to analyze the common problems of some complex situations that appear in the natural world, various fields of society, and thinking, consciousness and other aspects. This science provides a useful reference for people to explore and deal with complex problems through systematic analysis of some complex situations. It contains many advanced concepts, such as self-adjusting criticality, unity, non-linearity, variability, etc. Some foreign researchers think that the system is composed of different components, and that these components have their own activities. They can adjust their internal structure and activities according to their needs in the continuous fusion with surrounding objects. In order to adapt to the environment, the center around it is "complexity comes from adaptability".

3.2. Complexity Science Theory and Method

Regarding the concept of complexity, there have been different opinions and inconsistencies so far. Summarizing the previous definitions, this paper believes that it can be divided into the following points: (1) Describe the definition from information. In 1995, Lloyd counted 45 definitions of complexity by Western scholars, such as: Shannon information, Fischer, common information, Boltzmann, fractal dimension, logic depth, algorithm complexity, homology complexity, random complexity, time calculation complexity, space calculation complexity, primitive complexity, effective complexity, etc. Most of these definitions reflect the traditional methods of quantification and formalization proposed by the proponents to describe complexity. (2) Define from the macroscopic characteristics. Simon believes that complexity is a key feature of the world we live in and the systems that it lives with. Professor Qian Eisen pointed out that complexity is the dynamic characteristic of an open complex giant system. (3) From the research method. Definition Qian Eisen also pointed out that all problems that cannot be dealt with by reductionist methods or should not be dealt with by reductionist methods, but problems that are to be dealt with or should be dealt with by new scientific methods are all complex problems. (4) An integrated description of complexity. Chinese scholar Zhou Shoran has integrated the description of complexity in terms of ontology and epistemology, qualitative and quantitative, absolute and

relative, existence and evolution, space and time. Complexity is that things can reflect their evolutionary innovation, internal randomness, Spontaneous self-destruction, wide-area association, rich behavior, flexible strategy, mulch-layered texture, and overall integrated attributes and relationships of hidden mechanisms.

The methods of studying complex systems can be generally divided into two categories: mathematical modeling methods and computer simulation methods. Mathematical modeling methods generally use the solution of nonlinear differential equations to describe the evolution process of the system. The relationship between the variables is very clear during the establishment of the model, and it can often be established only when the system is simplified. There are two starting points for computer-based modeling methods: One is traditional artificial intelligence, in which each subject has a conscious process and behavior, the core of the research is the cognitive process, and the system is the focus of the investigation. Another type of viewpoint is based on structuralist methods, assuming that the subject is embedded in the network, and the overall characteristics of the system are studied from the base-level subjects and their interactions. The CAS method is based on this view. The pediatric models used to study CAS are: cellular automat, neural network, genetic algorithm. SFI developed the simulation process of CAS based on genetic algorithm. The models used for specific simulation mainly include the stimulus-response model developed by John Holland and Echo models, the main purpose of the design of these models is to explore the source of complex adaptation. The main differences between the above models and methods for studying complex systems and the models and methods of CAS theory based on genetic algorithms are: the elements of the former's basic constituent units, and the latter's basic units are active subjects, subjects Initiative has become the basic reason for the appearance of complex features. The interaction between the elements of the former mainly occurs between the elements. In the CAS system, not only the interaction between the main bodies, but also the interaction between the main body and the environment, this interaction is the system has the adaptation For reasons of sex, according to CAS theory, adaptability is the source of complexity. Therefore, the CAS theory and method are closer to reality than other methods, and better describe the emergence process and characteristics of complexity. Since there are no specific restrictions on the subject, it can be applied to a wider field.

3.3. CAS Theory System

The theory of complex adaptive system (CAS) studies the origin of the complexity of the system from the law of biological evolution, and uses adaptive subjects to connect the micro and macro worlds. The microscopic subject can learn continuously in the interaction with the environment and other subjects, and change its structure and behavior according to the learned experience, to better survive in the objective environment, which is its adaptability. At the macro level, the entire system exhibits complex evolution and evolution in the interaction between the subject and the environment. The core idea of CAS is that adaptability creates complexity. The basic concept of CAS theory includes 4 characteristics and 3 mechanisms, as shown in Table 1:

Table 1. The basic concept of a theory of CAS

Classify	1	2	3	4
Character	Aggregation	Non-linearity	Flow	Diversity
Mechanism	Tagging	Internal models	Building blocks	/

(1) Aggregation: mainly used by individuals to form aggregates of larger multiple bodies. Because individuals have the characteristics of aggregation, they can form a new individual-aggregate under certain conditions and when both parties accept each other, and act like a single individual in the system. (2) Non-linear: refers to the fact that individuals and their attributes do not follow a simple linear relationship when they change. This is especially evident in the repeated interaction with the system. (3) Flow: There is a flow of material, energy and information between the individual and the environment. Whether the channels of these flows are unobstructed and to what extent the turnover is rapid will directly affect the evolution of the system. (4) Diversity: In the process of adaptation, due to various reasons, the differences between individuals will develop and expand, and eventually form differentiation, which is a significant feature of CAS. (5) Identification: In order to identify and select each other, the identification of individuals is very important in the interaction between individuals and the environment, so whether in modeling or in actual systems, the function and efficiency of identification are factors that must be carefully considered. Well set up! Based on the interaction of logos, it provides a reasonable basis for screening, specialization and cooperation.

3.4. Model System of CAS Theory

In the realization of CAS theory, the following models are mainly used: (1) Stimulus-response model: At the micro level, this unified way is used to express the most basic behavior patterns of the subjects in various systems. The execution system of each subject consists of three components: a detector, an effector, and a set of rules. The detector is used to receive external stimuli, and the effector is used to respond. The IF and NE rules specify what kind of stimuli What kind of response is made, but it is different from the one-to-one corresponding IF / HT negative rule in the usual sense. In order to more realistically simulate the real world, CAS theory has set a variety of options in this rule, and there are contradictions, conflicts and inconsistencies between them. Based on genetic algorithm, the subject can constantly compare and select rules during the evolution process, and even generate new rules. In the comparison and judgment of rules, it reflects the combination of quantitative research and qualitative research.

Based on the micro-stimulus-response model, a macro-echo model of the entire system can be established. In this model, the main body has three basic parts: offensive logo, defensive logo and resource library. The functions of the basic echo model include: actively contacting other subjects, and also responding to the contact of other subjects. If the match is successful, the resource exchange is carried out, and the resources are stored and processed in their own. Subject. Under the control of the echo model, the state of the system is as follows: the entire system includes several sites, each location includes several subjects, the subjects communicate with each other, exchange resources and information "Holland is based on the basic echo model Above, this has been expanded to make it closer to the real world.

4. Research on the Application Technology Innovation of Agricultural Products and Wheat E-Commerce Based on Complex Adaptive System

4.1. Mathematical Model of Agricultural Wheat Electronic Commerce Application Technology Innovation Based on CAS Stimulus-Response

The biggest feature of a complex adaptive system is that the subject can adapt to the environment and continuously improve its own structure through adaptation. It can be said that the process of adaptation is an optimization process. Through the analysis, the agricultural wheat e-commerce application technology innovation system is a complex adaptive system. This section draws on the

complex adaptive system structure of Holland, and uses agricultural wheat e-commerce application technology as an adaptive subject to construct its conceptual model from innovation the management perspective describes the adaptation process of agricultural and wheat e-commerce application technology innovation to the environment. First, in the study of economic complex systems, discrete time processes are generally used. In this paper, the time stage of the adaptation process of a complex adaptive system is discrete t = 1,2,3 ..., T. Combining with the e-commerce development life cycle theory, the unit of time stage of e-commerce technology application innovation is defined as years. There are many specific expressions of complex adaptive system structures. Horan draws on the composition of chromosomes in the nucleus of an organism to express the structure of the system as a genetic pattern. Specific to the e-commerce technology application innovation system, in terms of the conceptual model of the adaptive subject, the system structure length can be defined as 4, because the structural elements of the system stimulus-response model described above are the detector and the processor (rule set), Effector and feedback re-learning (environment). After investigation and analysis, these four parts directly control the adaptation process, control efficiency and accuracy of the adaptive subject, as shown in Table 2.

Table 2. Four parts directly control the adaptability of the subject Should process

Symbol	Fitness	Control rate	Accuracy rate
A(t)	3.5	78%	52%
E(t)	4	68.9%	63.6%
T(t)	4.12	88.6%	63.7%
H(t)	4.6	74.9%	72.36%
I(t)	3.62	73.2%	73%

According to the definition, A is the largest space of possible structures. The actual system structure is generally only a true subset of A. Also specific to the agricultural wheat e-commerce application technology innovation system, this article defines its system length as 4, but the number of alleles of each locus cannot be precisely defined. Therefore, the system structure A (t) is not only the main model described in the foregoing, but also physical operating systems such as wheat production, processing, and sales. Therefore, this article can only abstractly define this process, first define the meaning of each symbol, see the following table: For the system structure A (t) at time stage t, the information provided by its environment E (t) is I (t), Under the action of the adaptation plan T (t), combined with environmental historical information R (t), the system structure at this stage is generated: T (t): A (t) × H (t) × I (t) → A (t +1). According to the comparison of MATLAB, the data analysis software, this method establishes a similarity ratio between the mathematical model of agricultural wheat e-commerce application technology innovation based on CAS stimulus-response and the actual, as shown in Figure 1 below.

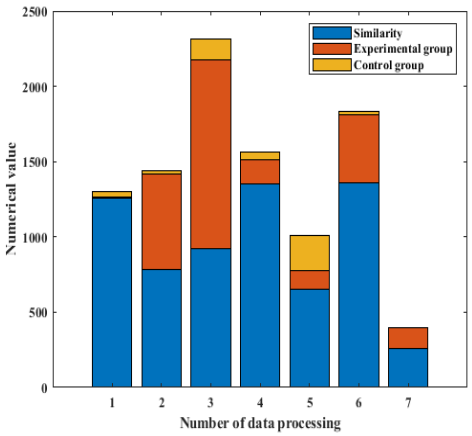

Figure 1. The mathematical model of agricultural product and wheat e-commerce application technology innovation is like the actual one

From the data in Figure 1, the establishment of a mathematical model based on CAS stimulus-response agricultural wheat e-commerce application technology innovation has a high similarity ratio with the actual. After 7 data comparisons, the similarity ratio reaches 0.95. The actual innovation effect and development are experimental products.

The model established has two interconnected levels: the enterprise level that reflects the new product design and development process within the organization. The e-commerce platform can be regarded as a creativity factory, which involves elements such as agricultural wheat e-commerce strategy, organizational structure, employee participation, and the level of risk taken; around the e-commerce platform, the environment that affects e-commerce application technology innovation activities It can be regarded as the availability of supply. The supply here integrates knowledge and technology, professional talents, materials, market demand, relevant important influencing factors, economy and related foundations. Innovation is not a linear process, but a system of interaction between institutional and organizational elements such as science, technology, learning, production, policy, enterprise, potential or actual market demand, and so on, that is, an innovation system. Five interdependent factors such as measurement standards constitute the core factor of the innovation system. How each factor works, and how each element interacts is determined by the sixth factor, wheat quality.

After a statistical survey, the impact index of these six influencing factors on the agricultural e-commerce wheat application technology is shown in Figure 2 below.

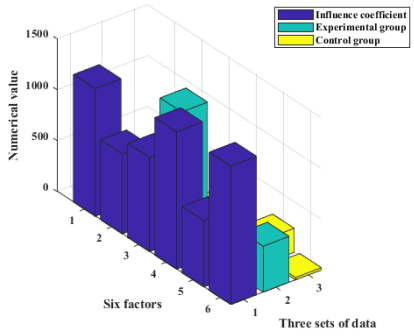

Figure 2. Influence index of six influencing factors on e-commerce application technology of agricultural products and wheat

It can be seen from the data in Figure 2 that these six influencing factors have different impact indexes on agricultural wheat e-commerce application technology innovation, of which wheat quality and market demand have the largest impact index, and the size of market demand often determines agricultural wheat wheat e-commerce applications. The efficiency index of technological innovation, the impact index of market demand reached 0.89.

4.2. The Feasibility Analysis of Promoting the Innovation of Agricultural Product Wheat E-commerce Application Technology Based on the Mathematical Model and Investing Research and Development Funds in Different Levels and Levels

Based on the mathematical model established in the previous section and the analysis of the influencing factors, finding the main organizational structure that affects the innovation of agricultural wheat e-commerce application technology is the basis for the implementation of related promotion methods. To find out the main organizational structure, the first is the relationship between different environments and organizational forms. The signs show that the higher the uncertainty and complexity of the environment, the more flexible structures and processes are needed to deal with the environment. We can clearly see the application of this principle in the efforts of e-commerce platforms to reduce time to market. Rapid product innovation and increased user response speed can be obtained through the integration of different functional experts, close market relations and user participation), extensive organizational change plans, and development teamwork and other organizational collaboration methods. Another factor that affects the design of the organizational structure is the industry structure in which it is located. A typical example is the printing industry, although it is also capital-intensive but allows a higher level of autonomous processing power. Of course, other variables that affect the organizational structure include company size, Company history and strategy. More and more influencing factors make the organizational structure develop towards the strain mode. The introduction of advanced technologies such as computers to enhance the adaptability of enterprises. In fact, there is no single best structure, and successful organizations tend to seek the most suitable match between structure and operation-to find the most suitable structural form for a specific environment. Structure makes innovative behavior possible and strengthens innovative behavior. The hierarchical division of the main organizational structure affects the efficiency of agricultural wheat electronic commerce application technology innovation based on a complex adaptive system, as shown in Figure 3 below.

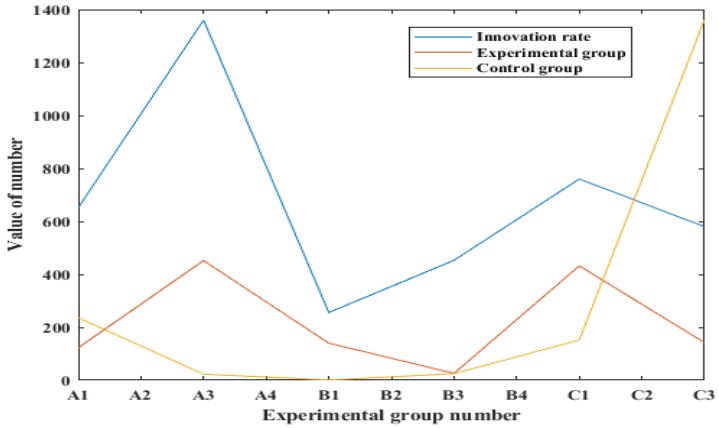

Figure 3. The main organizational structure of agricultural products and wheat affects the efficiency of electronic commerce application technology innovation based on complex adaptive system

As can be seen from the data in Figure 3, the hierarchical division of the main organizational structure has a greater efficiency in affecting the technological innovation of agricultural wheat e-commerce applications based on complex adaptive systems. Compared with previous comparisons, this innovative implementation method effectively improves agricultural wheat e-commerce the applied technology innovation rate reached about 15%. Then, based on the complex adaptation system of agricultural wheat e-commerce application technology innovation, the influencing factors and innovation factors of agricultural wheat e-commerce technology innovation are clearly defined. Determine the main organizational structure of agricultural wheat e-commerce application technology innovation according to levels, and increase the investment of innovation funds according to the structural level. This approach shows the efficiency of agricultural wheat e-commerce application technology innovation based on a complex adaptive system, as shown in Figure 4 below.

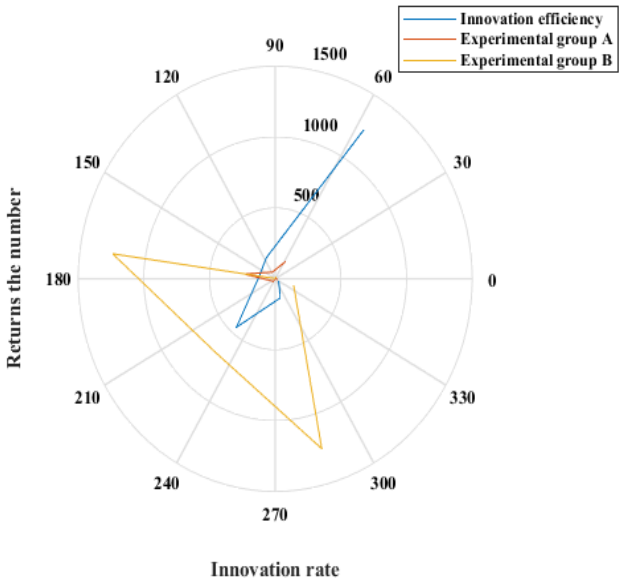

Figure 4. Efficiency of agricultural product and wheat e-commerce application technology innovation based on complex adaptive system

It can be seen from Fig. 4 that, through experimental testing, the main organizational structure of agricultural wheat e-commerce application technology innovation is determined according to the levels, and increasing the investment of innovation funds according to the structure level will effectively improve the related technology innovation. According to market surveys and experimental analysis, this innovative implementation method has effectively improved the innovation rate of agricultural wheat e-commerce application technology by 15%, and increased the relevant income of agricultural wheat e-commerce by about 5%.

5. Conclusion

(1) This article analyzes the current problems in the innovation and development of agricultural wheat e-commerce application technology, and discusses to solve these problems and proposes corresponding solutions. The development and influence of related application technologies are introduced, the related principles of e-commerce application technologies are introduced, and the development and application of CAS model are discussed in detail. The current status of e-commerce applications in agriculture is analyzed.

(2) Analyze the mathematical model of agricultural wheat e-commerce application technology

innovation based on CAS stimulus-response, put forward the corresponding working principles and theoretical guidance, and elaborate the six influencing factors that affect e-commerce application technology innovation. Among them, the establishment of a CAS-based stimulus-response agricultural wheat e-commerce application technology innovation mathematical model has a high similarity ratio with the actual. After 7 data comparisons, the similarity ratio reaches 0.95. The mathematical model can completely experiment for the actual innovation effect and development. Goods. In addition, the six influencing factors have different impact indexes on agricultural wheat e-commerce application technology innovation. Among them, wheat quality and market demand have the largest impact index. The size of market demand often determines the efficiency of agricultural wheat e-commerce application technology innovation. The impact index reached 0.89.

(3) Discussing the history of agricultural and wheat e-commerce application technology innovation based on a complex adaptive system. After experimental verification, the main organizational structure of agricultural and wheat e-commerce application technology innovation is determined according to different levels. Enhance innovation in related technologies. According to market surveys and experimental analysis, this innovative implementation method has effectively improved the innovation rate of agricultural wheat e-commerce application technology by 15%, and increased the relevant income of agricultural wheat e-commerce by about 5%.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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