

Transformation and Upgrading Path of Agricultural Economy in Beibu Gulf under the Background of Innovation Driven

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Abstract: As China enters the new normal of economic development, an economic stage characterized by slowing economic growth, high-end industry has become the main line of economic development. In order to realize the transformation and upgrading of industry to high-end industry, we must rely on innovation to drive. The proposal of innovation driven(ID) strategy has raised innovation to a new height. Based on the ID background, this paper studies the path of the transformation and upgrading of the agricultural economy(AE) in the BG. The development advantages of Beibu Gulf(BG) AE, industrial transformation and upgrading and ID theory are briefly analyzed; This paper discusses the path of the transformation and upgrading of the AE in the BG under the ID background, and through the empirical analysis of the impact of ID on the transformation and development of the AE in the BG, confirms that the implementation of the ID strategy into agricultural development is to accelerate the transformation and development of the AE in the BG. Agricultural economic transformation is an inevitable requirement for the implementation of the ID strategy and one of the main directions of agricultural supply side reform, It is related to the sustainable development of AE.

1. Introduction

At this stage, China's economic development has entered the transition period, coupled with the constraints of resources and environment, making the innovation ability and level must become the driving force of industrial transformation and upgrading. Clearly put forward the view that innovation is the driving force to promote industrial transformation and upgrading. In different stages of economic development, industrial transformation and upgrading are driven by different driving forces. With the continuous development of China's agricultural industry in recent years, under the new situation, the shortcomings of the lack of stamina in the development of resource dependent industries gradually appear, so Chinese experts and scholars gradually began to study the driving force of industrial transformation.

According to the existing literature research, there are many studies on innovation drive and

industrial transformation and upgrading at home and abroad, but few studies regard innovation drive as the driving force of industrial transformation and upgrading. At different stages of economic development, industrial transformation and upgrading are driven by different drivers. So that the innovation ability and level must become the driving force of industrial transformation and upgrading. The leading sector theory of olomu Mo mainly believes that the continuous change and upgrading of the leading sector in the stage of economic growth is the only way for the industry to transition from low-level to high-level [1]; SAMWELL believes that the development of agriculture and industry is the key to economic development, in which the degree of industrialization is the root of GDP changes; Most scholars mainly focus on the deep-seated reasons of industrial transformation, and also focus on its development trend to explore the specific direction and key objectives of industrial transformation and upgrading [2].

Driving the transformation of BG AE with innovation is not only the only way to reshape the competitive advantage of BG AE and consolidate and enhance the international and domestic status of BG AE, but also conforms to the strategic requirements of China's future agricultural economic development and adapts to the trend of industrial innovation in the new era. Based on the strategic background of ID development, and on the basis of combing and summarizing the relevant research at home and abroad, this paper deeply discusses the specific connotation of AE, industrial transformation, BG agricultural economic transformation and ID, expounds the mechanism of ID and agricultural economic transformation and the close relationship between them, and uses analytic hierarchy process to construct the evaluation index system of BG agricultural economic ID ability, It studies how innovation drives industrial transformation and upgrading, and provides a certain reference for the practice of traditional industrial transformation and upgrading [3-4].

2. Transformation and Upgrading of AE in BG under the Background of ID

2.1 Advantages of Agricultural Economic Development in BG

BG Economic Zone has great potential for economic development. It has not only the location advantages and resource advantages brought by its own superior geographical environment, but also the historical accumulation of its own development. The main advantages of BG Economic Zone include the following aspects:

2.1.1 It has the Support of the Southwest Hinterland

The development of coastal economy must rely on the strong support of inland hinterland, otherwise it will not be able to give full play to the advantages of channels and expand economies of scale. The BG Economic Zone is "backed by the southwest", which is itself a part of the southwest and the main traffic route between the southwest and the outside world. The southwest is rich in natural resources and labor resources, which can become an important resource for the development of the BG Economic Zone. At the same time, the southwest is also an important internal demand market in the BG Economic Zone. The development gap and traffic obstacles between the southwest and the eastern coastal areas, on the one hand, provide important late development advantages for the development of the BG Economic Zone, on the other hand, they also leave the undeveloped economic growth potential to the BG Economic Zone. The huge potential scale of the market is one of the biggest advantages of the economic zone and even the whole Guangxi, but local protectionism and the old system are the main reasons for this advantage that has not yet been reflected [5-6].

2.1.2 Strategic Choice of Coastal Industrial Development Mode

BG port group is the most favorable resource of BG Economic Zone. We should optimize port resources and give full play to the general scheduling resources of ports. The construction of the southwest passage has closely linked the major ports, and the division of labor and cooperation of ports has become the general trend. Dagangkou group in the economic zone has both competition and cooperation, and cooperation should be the main [7]. At present, the competition between Zhanjiang in Guangdong, Yangpu in Hainan and the coastal areas of the BG in the layout of coastal heavy industry has become a foregone conclusion. The BG Economic Zone should seize the opportunity of the national adjustment of the strategic layout of heavy chemical industry, vigorously strive for national support, strategically choose the development mode of coastal industry in the BG Economic Zone and gradually improve it.

2.1.3 Building Industrial Clusters

The BG Economic Zone has a certain industrial cluster foundation, and has basically determined the development layout of petrochemical industry, steel industry, forest pulp paper integration industry, modern logistics industry, coastal grain, oil and food industry cluster, marine industry and high-tech industry cluster. After determining the leading industries and choosing the development mode, the key of BG Economic Zone is to integrate advantages, cultivate industrial clusters and improve industrial relevance.

2.2 Industrial Transformation and Upgrading

The industrial transformation and upgrading can be divided into two forms: the transformation and upgrading outside the industry and the transformation and upgrading inside the industry. The optimization of the proportion relationship between the three industries is the main form of the transformation and upgrading outside the industry, and the breakthrough of the internal technical level of the industrial structure is an important feature of the transformation and upgrading inside the industry. From the perspective of the relationship between the two, the transformation and upgrading within the industry takes the transformation and upgrading outside the industry as the premise and foundation, and the direction and goal of the transformation and upgrading outside the industry is the transformation and upgrading inside the industry [8-9].

Based on the theory of industrial transformation, this paper proposes that the basic stages of industrial development are cultivation period, growth period and maturity period. In the cultivation stage, we should pay more attention to strategic choice; In the growth stage, through restructuring the industrial structure, innovating technology and improving quality, market regulation should play a major role in this stage, supplemented by guidance from the government; In the mature stage, government policies and guidance play a vital role in integrating the achievements and experiences of the cultivation period and the growth period to promote the modular development of the industry. The specific process is shown in Figure 1. Combing the theoretical basis of industrial transformation is the basis of this paper, which provides theoretical guidance and ideas for discussing how to transform and develop the AE in the BG [10].

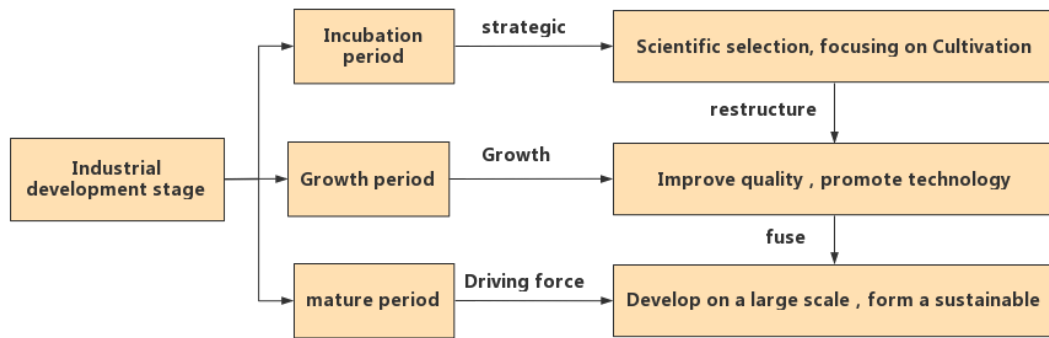


Figure 1: Basic stage of Industrial Development

2.3 ID Theory

ID is the development of "people-oriented". It is emphasized that the natural resources with rich reserves and immature utilization technology should be developed by human intelligence, and the developed and existing natural resources should be used sparingly and planned reasonably to reduce the pressure of exhausted natural resources. Front end drive mainly improves its advantages through technological innovation. Compared with other forms, its innovation form is primitive. It accumulates innovation advantages and builds a knowledge system, with a strong level of scientific and technological innovation [11]. The core of mid-range drive is collaborative innovation and media transformation of innovation subjects to improve the conversion rate of scientific and technological achievements. The focus of the back-end drive is to carry out product innovation in a highly developed market, constantly meet diversified market demands, and give play to the effect of industrial agglomeration. Its innovation forms are also more diversified and more dependent on the regulatory role of the market. The three forms interact with each other and gradually form a rich innovation industry ecosystem [12].

Studies at home and abroad have shown that innovation has a strong influence on the development of AE, not only in its great role in the advantages of industrial technological innovation, but also in its strong guidance of market demand. This paper believes that the innovation content of agricultural economic industry is more diversified and systematic. In general, if the agricultural economic industry wants to fully implement the ID development strategy, it needs to integrate advantageous resources in technology application, knowledge system, product structure, system innovation, market and other aspects to promote independent innovation.

3. Research on the Path of Agricultural Economic Transformation and Upgrading in the BG under the Background of ID

3.1 Strategic Objectives of BG Agricultural Economic Transformation and Development

The agricultural economic development of BG has achieved excellent results, and generally bid farewell to the era of shortage of agricultural products. However, there are still extensive development modes in agricultural production, breeding and other processes, and fundamental changes have not been achieved, mainly because it is still difficult for BG agriculture to get rid of the ecological constraints of agricultural resources on industrial development. How to implement the concept of innovative development and green development in the new era background, and

promote the high-efficiency, high-quality and sustainable development of BG agriculture is a key problem that must be solved in the new era. Therefore, the main goal of the agricultural economic development of the BG is to seek a smooth transformation based on the opportunity of opening two markets and two resources, pay more attention to the protection of ecological resources, and pay more attention to the sustainable development of industries.

3.2 Strategic Ideas for the Transformation and Development of BG AE

Development orientation: focus on product orientation and functional orientation

Product orientation refers to paying more attention to the survival of the fittest in the market competition environment, and functional orientation refers to paying more attention to being alone in the market competition environment. The research shows that due to the dilemma of comparative advantage in resources, technology investment has a locking effect, so the competitiveness obtained only by superior resources and technological advantages is difficult to be sustainable, and the competitiveness obtained by expanding the functionality of the value chain under the premise of resource shortage is sustainable. In the context of the new era, promoting the development of AE can not only focus on product market competition, but also be achieved by expanding the functions of agriculture. At present, it is a critical period for the development of the AE in the BG. We should accelerate the integration of the three agricultural industries in the BG, fully implement the ID strategy, and take functional expansion as an important path for the development of the AE in the BG.

Development strategy: give consideration to quality orientation and differentiation orientation

At present, the main pressure faced by the transformation and development of BG AE comes not only from the increasing shortage of resources, but also from the quality and differentiation orientation of market demand. Therefore, the level of science and technology and accelerating the replacement of factors are the target path to save production costs. At the same time, by expanding the agricultural industrial chain and value chain, promoting the development of industrial clusters is the key measure to realize the organization of division of labor, product differentiation and high-end market. In order to replace the product oriented and low-cost oriented mode with the quality, differentiation and functional development mode, we must rely on the innate resource endowment of the BG, improve the scientific and technological level, innovate the production mode and management mode, form a standardized, quality, differentiation and ecological production mode, develop emerging industries integrating leisure, entertainment and health, and provide diversified Multifunctional agricultural services and products, and develop refined and differentiated agricultural markets.

3.3 Implementation Path of Agricultural Economic Transformation and Development

3.3.1 Strengthen the Supply of Government System and Focus on Supporting Enterprise Innovation

Strengthening the supply of government system, establishing and improving the agricultural economic management system of the BG, and then building a perfect agricultural information network will help to provide important strategic support for the implementation of the ID strategy, the consolidation and deepening of the reform of the scientific and technological system, and the transformation of the traditional AE to the new AE in all agricultural areas of the province. Local governments should give full play to their guiding role, constantly improve policies and regulations, and then increase financial support, maintain a stable and orderly market environment, and provide institutional guarantee for the transformation and upgrading of the AE in the BG.

3.3.2 Promote the Transformation of Development Mode and Realize Connotative Development

The implementation of the connotative development of marine fisheries is also a key measure to effectively promote the transformation and upgrading of the AE in the BG. For emerging industries, we should focus on improving the brand value and added value of agricultural products. In terms of the brand value of agricultural products, industries related to the AE in the BG should focus on implementing brand marketing strategies, establish a good agricultural enterprise image to the outside world, ensure the quality of agricultural products by improving the technical equipment and processes in the processing link, and consciously improve agricultural products according to market demand, In order to win the favor of consumers and win the market.

3.3.3 Realize the Transformation of Innovation System and Improve the Ability of Independent Innovation

With the rapid development of science and technology in China, scientific and technological innovation has gradually become the first productive force in China. Therefore, for the realization path of the transformation and upgrading of the AE in the BG, scientific and technological leadership is the decisive factor. To develop agricultural production and improve agricultural productivity, the most important thing is to accelerate the construction of a multi-dimensional innovation system and enhance the scientific and technological innovation of agricultural areas. First of all, the key to ensuring the long-term development of agriculture is to establish and improve a multi-dimensional innovation system, promote the formation of an innovation culture in the AE of the BG, and enhance the ability of independent innovation. The innovation of realizing the agricultural economic development of BG should be carried out closely around the actual situation of its agricultural activities and improve its integrated management level. In order to meet the needs of China's development strategy and the requirements of sustainable development in the new era, BG agricultural production should build a multidimensional innovation system in time, introduce social forces, and strive to build an innovation support system in strategic management, organizational management, enterprise management and other aspects.

4. An Empirical Analysis of the Impact of Innovation Drive on the Transformation and Development of AE in the BG

First of all, the indicators selected in this paper are positive indicators, which do not need to be further modified; After calculating some indicators, calibration can be carried out. The calculation formula is:

$$s_{ab} = (e_{ab} - \bar{e}_b) / r_b \quad (1)$$

$$\bar{e} = \left\{ \begin{array}{l} \sum e_i / B \\ A + \frac{\sum fd}{B} \end{array} \right. \quad (2)$$

Among them, the standardized treatment value is SAB, and the average value of the B index is represented by EB. Similarly, Rb represents the standard deviation, and s represents the matrix after treatment.

After preprocessing the data, spss21.0 is used to analyze the collected multiple groups of index data to obtain the initial eigenvalue and variance contribution rate, as shown in Table 1.

Table 1: Total variance of interpretation

total	Variance%	Cumulative%
6.714	27.977	27.977
5.662	23.591	51.568
5.603	23.346	74.914
1.924	8.017	82.931
1.918	7.991	90.922

The principal component load diagram reflects the contribution rate of each index on the corresponding principal component. Through the Kaiser standardized orthogonal rotation of 24 indicators, the rotation square load matrix is obtained, as shown in Figure 2, and the impact of innovation drive on the transformation and development of BG AE is analyzed.

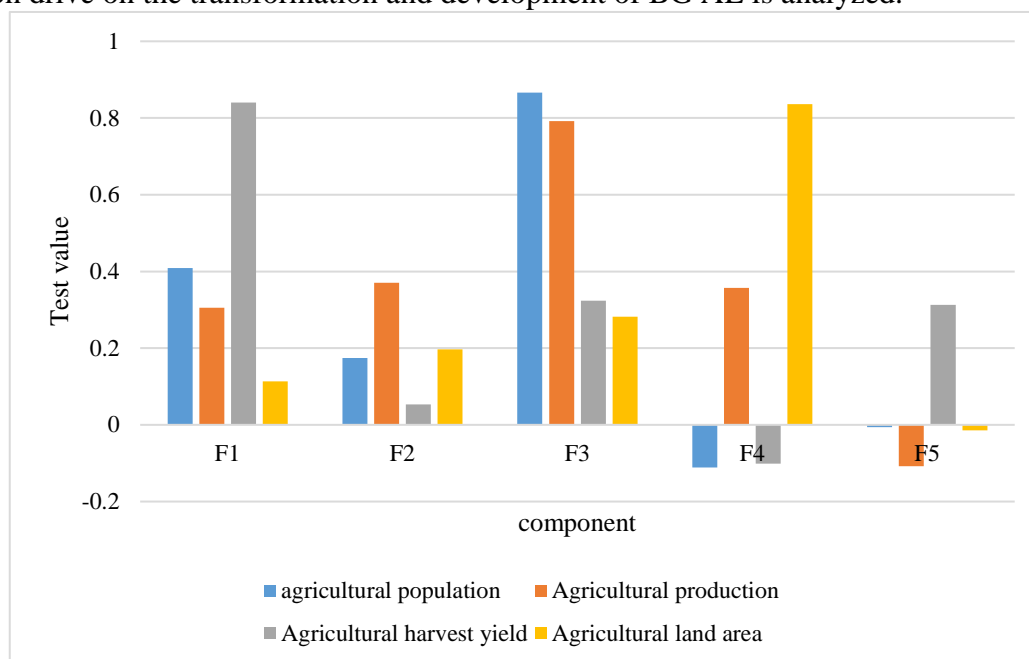


Figure 2: Rotating component matrix

Through a comprehensive and systematic review of the transformation and development of the AE in the BG and a horizontal comparison with the innovation driving capacity of the AE in other provinces across the country, in view of the plight of the development of the AE in the BG, the implementation of the ID strategy into agricultural development is to accelerate the transformation and development of the AE in the BG, which is an inevitable requirement for the implementation of the ID strategy, It is also one of the main directions of agricultural supply side reform, which is related to the sustainable development of AE.

5. Conclusions

This paper studies the path of the transformation and upgrading of the AE in the BG under the ID background. Because the transformation and development of the AE in the BG involves many factors, the research on it includes not only the discussion of the technical level, but also the analysis of the management evaluation and coordination level. The research on the transformation and development of BG AE in this paper is still a preliminary research, and there are many places that need to be improved. The future research on the transformation and development of BG AE should focus on the following aspects: the innovative research on the construction of the theoretical

system of the transformation and development of BG AE; Due to the lack of relevant data, the index system is still incomplete. Future relevant research should focus on horizontal and vertical comprehensive comparison to improve the credibility of the results. How to improve the competitiveness of BG AE according to local conditions through institutional innovation, technological innovation and organizational innovation should be a concern in the future.

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