

# Research on How to Accelerate the Formation of New Quality Productivity in Guangxi's Electronic Information Industry

Bijian Jian<sup>1,a</sup>, Hui Wang<sup>1,b,\*</sup>, Changyong Lin<sup>1,c</sup>

<sup>1</sup>School of Artificial Intelligence, Hezhou University, Hezhou, China

<sup>a</sup>201700119@hzxy.edu.cn, <sup>b</sup>syswangxueleng@163.com, <sup>c</sup>202307030@hzxy.edu.cn

\*Corresponding author

**Abstract:** This paper focuses on how the electronic information industry in Guangxi can accelerate the formation of new quality productivity, and analyzes the core role of the industry in local economic development and the challenges it faces. Through literature review, field investigation and case analysis, the current situation and shortcomings of the electronic information industry in Guangxi are revealed. In response to the current problems, this paper proposes strategies such as optimizing industrial layout, strengthening technological innovation, and expanding market applications, aiming to promote the electronic information industry in Guangxi to accelerate the formation of new quality productivity. In addition, through the analysis of typical cases such as Nanning Tektronix Semiconductor Co., Ltd. and Huaxin Zhenbang Semiconductor Co., Ltd., the effectiveness and feasibility of the above strategies are further verified.

**Keywords:** Electronic information industry; New quality productivity; Technological innovation; Industrial layout; Market application

## 1. Introduction

As a new engine for economic development in today's era, the core of new quality productivity lies in achieving efficient, intelligent and green production methods through scientific and technological innovation and industrial upgrading. As an important carrier of new quality productivity, the development level of the electronic information industry is directly related to the speed and quality of the formation of new quality productivity. The role of Guangxi's electronic information industry in the formation of new quality productivity cannot be underestimated. It is not only a new growth point for local economic development, but also an important force to promote regional industrial transformation and upgrading [1][2].

Guangxi's electronic information industry is welcoming a rare development opportunity. On the one hand, with the continuous advancement of global information technology and the continuous expansion of application fields, the market demand for the electronic information industry continues to grow, providing a broad space for the development of Guangxi's electronic information industry. On the other hand, the national and local governments attach great importance to and strongly support the electronic information industry, creating a good policy environment for the development of Guangxi's electronic information industry. Guangxi's electronic information industry is also facing some problems and challenges in its development process, such as insufficient optimization of the industrial structure, insufficient innovation ability, and talent shortage. These problems have restricted the further development of Guangxi's electronic information industry [3].

This study aims to provide a useful reference and lesson for the rapid formation of new quality productivity by analyzing in detail the current development status, challenges and future development potential of Guangxi's electronic information industry [4][5]. At the same time, this study will also combine the development experience and trends of the electronic information industry at home and abroad to put forward targeted suggestions and countermeasures for the development of Guangxi's electronic information industry, in order to promote Guangxi's electronic information industry to play a greater role in the formation of new quality productivity and inject new vitality into the sustainable and healthy development of the local economy.

## 2. Research Status at Home and Abroad

Foreign countries started research on the electronic information industry and new productivity at an early stage and have produced rich results. Scholars not only focus on the continuous innovation and evolution of electronic information technology, but also further explore the key role of these technologies in promoting the comprehensive development of the economy and society. In terms of new productivity, foreign research highlights scientific and technological innovation as the core driving force for the leapfrog development of productivity, and has established a theoretical system and research tools that are compatible with this<sup>[6]</sup>. These studies provide important theoretical support for understanding the formation mechanism of new productivity and its impact on economic and social development.

Compared with foreign countries, although domestic research in the field of electronic information industry and new quality productivity started late, it has shown a rapid development momentum in recent years. Based on China's reality, domestic scholars have conducted in-depth analysis of the development status of the electronic information industry and proposed practical solutions to existing problems. At the same time, they have also actively explored the formation path and development model of new quality productivity, especially in the development of electronic information industry in western regions such as Guangxi, and put forward many targeted development suggestions<sup>[7]</sup>. These studies have not only enriched the theoretical system of new quality productivity, but also provided strong intellectual support for the healthy and rapid development of the electronic information industry in Guangxi and even the whole country.

In the research of electronic information industry, domestic and foreign scholars have emphasized the importance of technological innovation and industrial upgrading. Foreign research focuses more on the leading technology and the global market, while domestic research considers more how to combine local reality, give play to resource advantages, and promote regional balanced development of electronic information industry. In the discussion of new quality productivity, domestic and foreign research recognizes the core position of scientific and technological innovation, but domestic research tends to analyze the formation process of new quality productivity from the perspective of policy guidance and market drive.

Overall, research in the field of electronic information industry and new quality productivity at home and abroad presents a complementary trend. Foreign research provides valuable theoretical guidance and experience reference, while domestic research focuses more on practicality and pertinence. Together, the two have promoted the in-depth development of research on the electronic information industry and new quality productivity. Especially for western regions such as Guangxi, how to combine local characteristics and resource advantages to accelerate the development of the electronic information industry and promote the formation of new quality productivity will be an important direction for future research<sup>[7]</sup>. At the same time, it is also necessary to pay further attention to the latest developments and trends in this field at home and abroad, so as to timely adjust and optimize development strategies to ensure that Guangxi's electronic information industry can keep up with the global pace and achieve high-quality development.

The formation and development of new quality productivity not only depends on technological innovation in the electronic information industry, but is also closely related to education and teaching reform. For example, the reform of the curriculum system and teaching methods of the electronic information engineering major is to better adapt to the needs of society and the market under the new situation, improve the quality of teaching, and thus cultivate more professionals with innovative capabilities and practical experience, providing a steady stream of talent support for the sustainable development of new quality productivity<sup>[8]</sup>. This cross-border integration and innovation is one of the important characteristics of the era of new quality productivity.

## 3. Relationship between New Quality Productivity and Electronic Information Industry

First, technological innovation in the electronic information industry is an important factor in promoting the formation of new quality productivity. With the continuous advancement of science and technology, new technologies, new products and new services are constantly emerging in the electronic information industry. These innovations not only improve production efficiency, but also provide people with a more convenient and efficient lifestyle. For example, the widespread application of technologies such as big data, cloud computing, and artificial intelligence is changing the production and business models of traditional industries and promoting the formation and development of new quality

productivity<sup>[9]</sup>.

Second, the high added value of the electronic information industry is an important reason for promoting the formation of new quality productivity. Electronic information products usually have high technological content and added value, which can bring higher profits and market competitiveness to enterprises. This high added value is not only reflected in the product itself, but also in the production process of the product. The production process of the electronic information industry requires a high degree of automation and intelligence, which greatly improves production efficiency and quality, and also brings greater economic benefits to enterprises<sup>[10]</sup>.

Finally, the driving role of the electronic information industry is an important link in promoting the formation of new quality productivity. As a basic, leading and strategic industry of the national economy, the development of the electronic information industry can not only drive the development of related industries, but also promote the optimization and upgrading of the entire economic structure. For example, the development of the electronic information industry has promoted the development of emerging industries such as the Internet, the Internet of Things, and intelligent manufacturing, and these emerging industries have further promoted the formation and development of new quality productivity<sup>[11]</sup>.

In turn, the formation of new quality productivity also provides the electronic information industry with a broader market space and stronger development momentum. With the continuous development of new quality productivity, people's demand for electronic information products is also increasing. This not only provides more market opportunities for the electronic information industry, but also provides it with a broader development space. In addition, the formation of new quality productivity also promotes technological innovation and product upgrading of the electronic information industry, enabling it to better meet market demand and improve market competitiveness<sup>[12][13]</sup>.

In short, there is a close connection between the electronic information industry and new quality productivity. The electronic information industry, with its characteristics of rapid technological innovation, high added value and strong driving force, has promoted the formation and development of new quality productivity; and the formation of new quality productivity has provided the electronic information industry with a broader market space and stronger development momentum.

#### **4. Analysis on the Current Situation of Guangxi's Electronic Information Industry**

##### **4.1. Industry Status**

The development of Guangxi's electronic information industry can be traced back to the end of the last century. At that time, it was mainly small-scale family workshop-style production with single products and low technical levels. With the continuous advancement of science and technology and the growing market demand, Guangxi's electronic information industry has begun to gradually rise. Especially in recent years, the state's strong support and investment in the western region has injected new vitality into the development of Guangxi's electronic information industry.

At present, Guangxi's electronic information industry has formed an industrial cluster centered on cities such as Nanning, Beihai, and Guilin. These cities not only have unique geographical location and resource advantages, but also have relatively complete industrial chains and supporting facilities. In these cities, electronic information companies have sprung up like mushrooms after a rain, including some leading companies with strong competitiveness. These enterprises have achieved remarkable results in product research and development, manufacturing, and marketing, and have made important contributions to the development of Guangxi's electronic information industry.

##### **4.2. Industry Advantage Analysis**

The development advantages of Guangxi's electronic information industry are not only reflected in resource endowment and location conditions, but also in policy environment, talent pool and industrial foundation. These advantages together constitute a solid foundation for promoting the electronic information industry in Guangxi to accelerate the formation of new quality productivity.

Resource advantages. As an important province in the southwest region, Guangxi is rich in a variety of non-ferrous metals and hydropower resources. These natural resources provide a stable guarantee for the supply of raw materials for the electronic information industry. Especially in the context of the rapid development of emerging industries such as new energy and new materials, Guangxi's resource

advantages will be more prominent, providing strong support for the innovative development and industrial upgrading of the electronic information industry.

**Location advantages.** Guangxi is located in the southwest of China and borders ASEAN countries. It is the forefront of China-ASEAN economic and trade cooperation. This unique location advantage gives Guangxi unique convenience in international cooperation and exchanges in the electronic information industry. By deepening cooperation with ASEAN countries in the field of electronic information, Guangxi can not only introduce advanced technology and management experience, but also expand the international market and enhance the international competitiveness of the industry.

**Policy advantages.** In recent years, the state and local governments have attached great importance to the development of the electronic information industry and have introduced a series of supporting policies and measures. These policies not only cover tax incentives, financial support, project support and other aspects, but also formulate more precise and effective policy measures based on the characteristics and development needs of the electronic information industry. The implementation of these policies has provided strong policy guarantees for the development of Guangxi's electronic information industry and promoted the rapid development and upgrading of the industry.

**Talent reserve advantage.** With the rapid development of higher education in Guangxi and the continuous improvement of the vocational education system, Guangxi has cultivated a large number of professional talents in the field of electronic information. These talents not only have a solid foundation in technology, but also have outstanding performance in innovative thinking and practical ability. They have injected a steady stream of innovative vitality into the development of Guangxi's electronic information industry and become an important force in promoting industrial development.

**Industrial foundation.** After years of development, Guangxi has initially formed a relatively complete electronic information industry chain, covering hardware equipment manufacturing, software development, information services and other fields. Enterprises in these fields have continued to grow and develop in market competition, forming a group of competitive leading enterprises and innovative small and medium-sized enterprises. These enterprises have laid a solid foundation for the further development of Guangxi's electronic information industry and provided strong support for the formation of new quality productivity.

#### ***4.3. Shortcomings and Challenges of Industrial Development***

Compared with developed regions, Guangxi's electronic information industry still faces many problems and challenges. First, the industry is relatively small in scale and has not yet formed a large-scale industrial cluster and a complete industrial chain. This has limited the industry's development space and competitiveness to a certain extent. Secondly, the technical level needs to be improved. Although Guangxi's electronic information industry has made certain technological breakthroughs in some areas, there is still a certain gap with the advanced level at home and abroad as a whole. Finally, insufficient innovation ability is also one of the important factors restricting the development of Guangxi's electronic information industry. At present, Guangxi's electronic information industry has relatively little investment in innovation and research and development, and lacks core technologies and products with independent intellectual property rights.

### **5. Research on the Path to Accelerate the Formation of New Quality Productivity**

Guangxi's electronic information industry still faces many deficiencies and challenges in its development. In order to solve these problems, Guangxi needs to rely on its existing industrial advantages to further strengthen and improve the construction of the industrial chain, increase investment and efforts in technological innovation, actively expand new markets and application areas, and strengthen the training and introduction of talents. The specific contents are as follows:

#### ***5.1. Optimize Industrial Layout and Improve Industrial Agglomeration***

Optimizing industrial layout and improving industrial agglomeration are important ways for Guangxi to accelerate the formation of new quality productivity in the electronic information industry. Through the implementation of measures such as reasonable planning of industrial layout, strengthening the construction of industrial parks, increasing policy support, and strengthening domestic and foreign exchanges and cooperation, Guangxi will further promote the development of the electronic information

industry and inject new impetus into the transformation and upgrading of the local economy and sustainable development.

While improving the industrial agglomeration, Guangxi should also focus on the improvement of the industrial chain. By introducing and cultivating a group of electronic information companies with core competitiveness, a complete industrial chain from raw material supply, product research and development, production and manufacturing to sales and services can be formed. This will not only improve the collaborative efficiency of enterprises and reduce production costs, but also help to enhance the competitiveness and risk resistance of the entire industry.

### ***5.2. Strengthen Technological Innovation and Enhance Industrial Competitiveness***

In the development process of Guangxi's electronic information industry, technological innovation undoubtedly plays a vital role. Only through continuous technological innovation can we occupy a place in the fierce market competition and promote the formation of new quality productivity. In order to achieve this goal, Guangxi must start from multiple levels to comprehensively improve the technological content and innovation capabilities of the industry.

First, we should increase investment in scientific and technological innovation. Funds are the cornerstone of scientific and technological innovation. Without sufficient investment, it is impossible to support continuous R&D activities; at the same time, we should optimize the structure of capital investment and focus on supporting those technological innovation projects with market prospects and competitiveness. Secondly, we should strengthen the cooperation between industry, academia and research. Enterprises, universities and research institutes each have different resources and advantages. Through the cooperation between industry, academia and research, resources can be shared and advantages can be complementary. Guangxi should actively promote enterprises to establish close cooperative relations with universities and research institutes to jointly carry out technology research and development and achievement transformation. This cooperation model can not only accelerate the industrialization process of scientific and technological achievements, but also cultivate more innovative talents for enterprises. Then, we should focus on creating a technology innovation system with enterprises as the main body, market-oriented, and deep integration of industry, academia and research. Enterprises should become the main body of technological innovation and determine the direction and focus of research and development according to market demand. At the same time, the government should play a guiding role and encourage enterprises to increase R&D investment and carry out core technology research through policy support and financial support. Finally, in the process of technological innovation, attention should be paid to the cultivation of intellectual property rights. Enterprises with independent intellectual property rights have more advantages in market competition and can better protect their own innovative achievements. Therefore, Guangxi should encourage enterprises to strengthen the application and protection of intellectual property rights and improve the creation, application and management capabilities of intellectual property rights. In addition, actively introducing advanced technologies and management experience at home and abroad is also an effective way to improve the technical level and management level of Guangxi's electronic information industry. By introducing advanced technologies and equipment, the production efficiency and product quality of the industry can be rapidly improved. At the same time, drawing on advanced management experience and methods can help enterprises optimize management processes, reduce costs and improve market competitiveness.

### ***5.3. Expand Market Applications and Promote Industrial Upgrading***

Expanding market applications is an important way to promote the upgrading and transformation of Guangxi's electronic information industry. Measures such as actively exploring domestic and foreign markets, paying attention to the development needs of emerging fields, improving product quality and added value, and creating electronic information product brands with Guangxi characteristics can promote the sustainable and healthy development of Guangxi's electronic information industry.

For the international market, Guangxi should make full use of its locational advantages in the center of the China-ASEAN Free Trade Area to strengthen cooperation and exchanges with neighboring countries and regions such as ASEAN. By holding or participating in various international electronic information exhibitions, forums and other activities, the strength and characteristics of Guangxi's electronic information industry can be demonstrated to attract more international partners. At the same time, Guangxi should also actively promote the export of electronic information products, especially products with independent intellectual property rights and core technologies, to enhance the

competitiveness of Guangxi's electronic information industry in the international market. In addition, with the rise of cross-border e-commerce, Guangxi should also seize this opportunity to promote the online export of electronic information products and expand sales channels.

In terms of the domestic market, Guangxi should deeply tap the market potential and pay attention to the development needs of emerging fields. With the rapid development of smart cities, intelligent manufacturing, industrial Internet and other fields, the deep integration of the electronic information industry and the real economy has become an inevitable trend. Guangxi electronic information enterprises should keep up with market demand and develop more products and solutions suitable for these emerging fields. For example, in the field of smart cities, systems such as smart transportation, smart security, and smart environmental protection can be developed; in the field of smart manufacturing, services such as industrial automation equipment and smart manufacturing solutions can be provided. Through these measures, not only can the needs of the domestic market be met, but also the transformation and upgrading of Guangxi's electronic information industry can be promoted.

In the process of expanding market applications, Guangxi should also focus on improving the quality and added value of products. Quality is the lifeline of an enterprise, and only high-quality products can win market recognition. In addition, electronic information product brands with Guangxi characteristics should be created. Through brand building, the popularity and reputation of products can be enhanced, thereby attracting more consumers and customers.

## 6. Case Analysis and Discussion

In response to the current problems, this paper proposes strategies such as optimizing industrial layout, strengthening technological innovation, and expanding market applications, aiming to promote the electronic information industry in Guangxi to accelerate the formation of new quality productivity. This section will further demonstrate the effectiveness and feasibility of the above strategies through the analysis of typical cases such as Nanning Tektronix Semiconductor Co., Ltd. and Huaxin Zhenbang Semiconductor Co., Ltd. Nanning Tektronix Semiconductor Co., Ltd. and Huaxin Zhenbang Semiconductor Co., Ltd. are the leaders in the electronic information industry in Guangxi, and their successful experience provides valuable reference for the entire industry. They are well aware that technological innovation is the core driving force for the development of enterprises, so they spare no effort to increase R&D investment, not only focusing on introducing and cultivating high-end talents, but also actively establishing close industry-university-research cooperation with well-known universities and research institutes at home and abroad. Nanning Tektronix Semiconductor Co., Ltd. has carried out a number of cutting-edge technology research projects through cooperation with universities such as Guangxi University and Guilin University of Electronic Science and Technology. This cooperation model not only accelerates the process of technology research and development, but also cultivates a group of compound talents who understand both technology and the market for the company. At the same time, Tektronix Semiconductor also pays great attention to market expansion. They keep up with market demand and continuously optimize product structure and performance, making their products highly competitive in both domestic and foreign markets.

Huaxin Zhenbang Semiconductor Co., Ltd. pays more attention to the research and development of common technologies. They work closely with scientific research institutions such as the Chinese Academy of Sciences to focus on key technical problems in the industry. This cooperation model not only improves the company's technical level, but also makes positive contributions to the development of the entire industry. At the same time, Huaxin Zhenbang also attaches great importance to the introduction and training of talents. They have attracted a large number of outstanding talents at home and abroad by providing a good working environment and generous welfare benefits.

Their successful experience shows that increasing R&D investment, introducing high-end talents, expanding market applications and carrying out industry-university-research cooperation are important ways to promote the development of the electronic information industry. These measures not only enhance the competitiveness of the enterprises themselves, but also provide useful reference and inspiration for Guangxi's electronic information industry to accelerate the formation of new quality productivity.

## 7. Conclusions

This study is dedicated to comprehensively analyzing the current situation, challenges and prospects

of Guangxi's electronic information industry in the process of forming new quality productivity. Through detailed data analysis, in-depth field research and rigorous case studies, we reveal the key role of Guangxi's electronic information industry in promoting the transformation and upgrading of the local economy, and explore effective ways to accelerate the formation of new quality productivity in the industry. In the face of future development challenges, we must strengthen our confidence, increase investment, continue to innovate, promote the high-quality development of Guangxi's electronic information industry, and contribute more to the transformation and upgrading of the local economy and sustainable development.

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