New Quality Productive Forces to Promote the Transformation and Upgrading of Guangdong Manufacturing Industry: Logical Mechanism, Realistic Dilemma and Development Strategy

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Abstract: New quality productive forces, as a driving force for high-quality development, has emerged as a new impetus for the transformation and upgrading of China's manufacturing sector. To facilitate the development of new quality productive forces, it is essential to achieve a qualitative leap in the three key elements: laborers, means of production, and objects of labor. The new quality productive forces are characterized by high technology, high efficiency, and high quality. The logical mechanism through which new quality productive forces facilitate the transformation and upgrading of the manufacturing industry encompasses three dimensions: enhancing the production quality and efficiency by elevating the skills and competencies of workers, advancing the modernization of labor tools to boost the adaptability of labor outputs, and diversifying labor inputs to strengthen the overall comprehensive capabilities of the manufacturing sector. However, at present, in the process of modernizing the manufacturing structure in Guangdong, it faces the dual challenges of pronounced primary characteristics and inadequate optimization momentum. Additionally, the modernization of Guangdong's manufacturing layout is hampered by insufficient synergy and integration. There is an urgent need to optimize and upgrade through new quality productive forces, optimize the manufacturing structure through a concurrent development strategy that integrates talent reserves and capital strength; Enhance the layout of the manufacturing industry through a systematic and collaborative strategy that emphasizes both key breakthroughs and comprehensive progress; Establish a manufacturing circulation model by coordinating domestic and international circulation strategies.

Keywords: New Quality Productive Forces; Manufacturing Industry Transformation and Upgrading; Development Strategies

1. Introduction

In July 2024, China made a comprehensive deployment for "improving the system and mechanism for developing new quality productive forces in accordance with local conditions." New quality productive forces are considered the driving force of high-quality development, the focus of China's modernization, and a strategic choice for promoting a modern industrial system in the context of global competition. They will drive the high-quality development of agriculture, new-type industrialization, and other industries. Manufacturing serves as a pivotal element in the contemporary industrial framework. The transformation and upgrading of China's manufacturing sector represent an essential strategic imperative for the nation. China has pointed out that it should "cultivate and foster advanced manufacturing clusters and promote the high-end, intelligent, and green development of manufacturing," which further demonstrates the urgent need of the Chinese government for the development of the manufacturing industry in the context of the fourth industrial revolution. Guangdong, as a key frontier area of China's reform and opening up, is at the forefront of the digitalization and intelligent transformation of the manufacturing industry in China, with outstanding material conditions. However, there has been relatively little research on the internal mechanisms of new quality productive forces empowering the transformation and

upgrading of the manufacturing industry in Guangdong. Therefore, this paper takes the manufacturing industry in Guangdong as the perspective, explores new directions and ideas for the development of new quality productive forces, and further analyzes the focus points and practical directions of new quality productive forces driving the transformation and upgrading of the manufacturing industry, providing development experience for the transformation and upgrading of China's manufacturing industry and other regions, and laying a solid foundation for the development of strategic emerging industries and future industries.

2. Definition of New Quality Productive Forces

New quality productive forces are the product of the process of the Fourth Industrial Revolution, possessing rich ideological connotations and distinct characteristics of the times. New quality productive forces represent a qualitative leap in the combination of workers, means of labor, and objects of labor, and are essentially advanced productive forces. Their characteristics include the high-tech nature of production technology, the efficient allocation of production factors, and the high quality of labor objects and products.

2.1 The Basic Connotation of New Quality Productive Forces

The foundation of new quality productive forces lies in the innovation and enhancement of productivity. According to the profound interpretation of productive forces in "Das Kapital," productive forces are mainly composed of three core elements: laborers, means of labor, and objects of labor. The so-called "new quality" emphasizes that these three elements must undergo a qualitative leap and significant improvement. Specifically, laborers need to transform into individuals with higher quality, such as strategic talents, applied technical talents, etc.; the means of labor need to be upgraded to tools with more advanced technology and higher levels of intelligence, such as cutting-edge manufacturing technologies, industrial automation software, etc.; the objects of labor also need to expand to broader fields, including but not limited to emerging industries, frontier technology industries, etc. Overall, the formation of new quality productive forces is the result of the organic integration of innovative, compound, and applied talents. These talents, through achieving disruptive, critical, and revolutionary technological breakthroughs as well as the creation of advanced production tools, have mastered the application of new quality labor materials and innovatively configured production factors during the production process. These activities have propelled the deep transformation and upgrading of industries, significantly enhanced total factor productivity, and thus realized the transition from traditional "old quality" industries to "new quality" industries with advanced productive forces.

2.2 The Main Characteristics of New Quality Productive Forces

From the basic connotations above, the main characteristics can be abstractly summarized as: The high-tech production technology, the high efficiency of production factors, and the high quality of labor objects and products.

2.2.1 The high-tech

High-tech is the most prominent feature of new quality productive forces. Production technology is divided into two dimensions: "hard technology" and "soft technology." With the vigorous development of strategic emerging industries, many advanced hard technologies continue to achieve new progress and breakthroughs, such as in the fields of new energy technology, nuclear power technology, and bioengineering. In the production process, workers need to master and apply these cutting-edge scientific and technological knowledge and innovative achievements. At the same time, soft technology encompasses frontier technologies in informatization and intelligence, such as artificial intelligence, big data, and cloud computing. With the application of advanced computing technology, big data analysis, and artificial intelligence, new quality productive forces have achieved automation and intelligence in complex decision-making processes and operations requiring high intelligence, thereby enhancing labor productivity and promoting the innovative development of knowledge and technology [1].

2.2.2 The high efficiency

High efficiency means the synergistic and

efficient operation of material and non-material elements in various fields. New quality productive forces enhance the efficiency of factor utilization by promoting the free flow and efficient allocation of knowledge, technology, and other production factors across different manufacturing sectors, optimizing the configuration of production processes and strengthening synergistic effects[1].Meanwhile, the requirements of new productive forces in breaking down industry barriers and promoting cross-industry cooperation have facilitated the flow and allocation of production factors, fostered new models for deepening manufacturing technological integration and innovation, promoted the enhancement of manufacturing quality and efficiency, and provided new ideas for transforming and upgrading the manufacturing industry.

2.2.3 The high quality

High quality constitutes a prominent characteristic of the new quality productive forces. In the face of the new circumstances of an unprecedented major transformation unseen in a century and the instability of the international political situation, the development demands of the new quality productive forces have given rise to new business forms, models, and industries featuring high-quality development, demonstrating a strong ability to resist risks and potential for sustainable development. Therefore, the core of the construction of China's modern industrial system should focus on the development of national strategic emerging industries and future industries, while accelerating the transformation and upgrading of traditional industries, and establishing a comprehensive development strategic pattern of "a unified approach throughout the country", so as to enhance the ability to withstand domestic and international uncertainties and ensure the sustainable development of industries. On the other hand, the development of the new-quality productive forces also implies that labor products will shed the old labels of low quality, low-end, and low added value, and through innovative production methods, produce high-end products with high quality, high precision, and high competitiveness, thereby occupying a favorable position in international trade and market competition.

3. The Logical Mechanism by Which New Quality Productive Forces Facilitate the Transformation and Upgrading of the Manufacturing Industry

The emergence of new quality productive forces has facilitated the transformation and upgrading of the manufacturing industry. The underlying logical mechanism comprises three key aspects: First, enhancing the skills and qualifications of workers improves the quality and efficiency of the production process. Second, advancing the modernization of labor tools enhances the adaptability and compatibility of manufactured products. Third, diversifying the range of labor objects strengthens the overall competitiveness of the manufacturing sector.

3.1 Enhancing the Skills and Qualifications of the Workforce can Significantly Improve Production Quality and Efficiency

The improvement of laborers' skill proficiency constitutes the key to optimizing the quality of the labor force and is closely associated with the enhancement of production efficiency and product quality. Driven by the new quality productive forces, the manufacturing industry tends to adopt intelligent and information-based production tools and approaches, thereby demanding that laborers' skill proficiency attains higher standards. Laborers' skill proficiency encompasses not only production operation skills but also aspects such as production management and equipment maintenance management. Consequently, laborers' knowledge structure and problem-solving ability are required to reach a higher level. Based on this, when selecting laborers, the manufacturing industry shows a greater preference for talents with composite, innovative, and applied qualities and is dedicated to conducting targeted skill training to attract and cultivate high-quality labor resources. Laborers with "new quality" skills can adapt to production work more rapidly and ensure the efficient operation of the production process. Simultaneously, high-quality labor resources also provide an innovative impetus for the improvement of manufacturing production quality. Laborers with higher skill proficiency are capable of deeply exploring potential issues in the production process and proposing practical

and feasible improvement suggestions, which holds significant importance for promoting innovation in the production system, accelerating the upgrading and replacement of technological products, and creating competitive advantages for the manufacturing industry.

In conclusion, enhancing laborers' skill proficiency to enhance production quality and efficiency is one of the logical mechanisms through which new-quality productive forces enable the transformation and upgrading of the manufacturing industry. It emphasizes optimizing human capital to drive the improvement of production efficiency and quality, thereby injecting vitality into the transformation and upgrading of the manufacturing industry.

3.2 Promote the Modernization of Labor Tools to Enhance the Adaptability and Quality of Labor Products

The modernization of labor tools signifies an advanced phase in the evolution of production methods, offering technical support for the creation of labor products that align with market demands. Propelled by new quality productive forces, information technology and intelligent technology are increasingly integrated into the manufacturing process, exemplified by the application of artificial intelligence, the Internet of Things, and intelligent control systems. These cutting-edge technologies directly influence production efficiency and product quality, thereby fulfilling the public's demand for premium goods. Additionally, they facilitate dynamic adjustments in the alignment between production and market needs through the continuous monitoring of supply and demand dynamics. Leveraging digital tools and platforms such as cloud computing and big data, the production chain, supply chain, and volatile market demands are monitored in real-time, enabling rational resource allocation within the manufacturing sector based on market requirements. This optimization of production management methods ensures the coordination between the supply and demand sides, enhancing the adaptability of labor products to market needs.

In conclusion, the promotion of labor tool modernization to improve the market relevance of labor products constitutes a critical mechanism through which new quality productive forces drive the transformation and upgrading of the manufacturing industry. The enhancement of labor tools provides the necessary technological foundation for the manufacturing sector to produce high-value-added products and reconfigure its competitive landscape in response to market shifts, thus playing a pivotal role in the industry's transformation.

3.3 Achieving Diversity in Labor Objectives to Enhance the Comprehensive Competitiveness of the Manufacturing Industry

The diversity of labor objects exerts a remarkable reinforcing effect on both the "hard power" and "soft power" of the manufacturing industry, thereby facilitating the overall enhancement of its comprehensive strength. The diversity of labor objects is primarily manifested in two aspects: Firstly, the expansion of the category of material objects; secondly, the incorporation of non-material objects such as data and algorithms. In traditional production models, labor objects were typically monotonous and lacked flexibility. Nevertheless, driven by the new-quality productivity, the integration of high-end science and technology has ameliorated the production methods and elevated the capacity to produce complex and refined products, thereby enabling the manufacturing of a greater variety and diversity of products. This caters to the escalating demand of consumers for personalized and customized products and promotes the transition from large-scale standardized production to more flexible and adaptable production modes. Given its alignment with market demands, this transformation holds a stronger competitive edge. This precisely constitutes the "hard power" that the diversity of labor objects brings to the manufacturing industry. Additionally, in the era of new-quality productivity, the significance of non-material production factors like data and algorithms is escalating, with an emphasis on the ability to analyze and process information for optimizing production decisions, product design and development, market response, and enhancing the scientificity and high adaptability of the product production process.

At this level, production factors such as data are transformed into labor objects, demanding that manufacturing enterprises intensify the development and application of information technology, thereby strengthening the competitive advantage of the manufacturing industry in terms of soft power.

In conclusion, achieving the diversity of labor objects to elevate the overall comprehensive strength of the manufacturing industry is one of the logical mechanisms through which new-quality productivity enables the transformation and upgrading of the manufacturing industry. This process emphasizes optimizing the product structure and enhancing the value-added services of products from both the hard and soft power dimensions, thereby injecting new momentum into the comprehensive strength of the manufacturing industry.

4. The Practical Challenges in Facilitating the Transformation and Upgrading of the Manufacturing Industry through Enhanced New Quality Productive Forces

Prior to the development of new quality productive forces in the manufacturing sector, it is imperative to delineate the relationship between new quality productive forces and "old quality productive forces". New quality productive forces is not a relationship of a kite and a string with "old quality productive forces", but rather one of the spire and the body of a tower [2]. Discussing new quality productive forces while disregarding the existing "old quality" industries is neither realistic nor scientific. The development of new-quality productivity does not imply replacing old quality productive forces but rather building upon it.

Given the notable gradient disparities in the development level of the manufacturing industry among the eastern, central, and western regions of China, the strategies for developing new quality productive forces cannot be generalized uniformly, nor can a single model be employed across the board to enable the empowerment of new quality productive forces for the development of the manufacturing sector. This paper selects the manufacturing industry of Guangdong Province as a case for analysis, which is highly representative:

Firstly, from the perspective of industrial foundation, Guangdong Province enjoys a pioneering advantage in the development of new quality productive forces, which conforms to the principle of scientificity. As a typical region with a highly developed digital economy and manufacturing sector, Guangdong Province leads the way in the digitalization and intelligent transformation of manufacturing within China. Secondly, from the perspective of regional characteristics, Guangdong Province holds a positional resource advantage in the development of new quality productive forces. As the forefront of China's reform and opening up, Guangdong Province has a higher degree of openness, facilitating easier access and absorption of advanced production concepts and integration into the wave of reform. Nevertheless, upon comprehensive consideration, the development of Guangdong Province's manufacturing industry still confronts several predicaments.

4.1 In the Process of Modernizing the Manufacturing Industry Structure, it is Confronted with the Dual Predicament of Prominent Primary Characteristics and Insufficient Impetus for Optimization

Firstly, the proportion of high-end manufacturing remains relatively low, and the overall manufacturing structure is underdeveloped. While a few cities in Guangdong exhibit significant advantages in high-end manufacturing, the majority of cities still rely on low-end production capacities. Overall, the internal structure of Guangdong's manufacturing industry requires urgent optimization. In 2023, the share of strategic emerging industries in the regional GDP of Guangzhou and Shenzhen reached 30.7% [3] and 41.9% [4], respectively, indicating a positive trend in the development of high-tech manufacturing. According to the "14th Five-Year Plan" for the high-quality development of manufacturing in Guangdong Province, Foshan, Huizhou, and Zhaoqing are focusing on transforming traditional manufacturing industries (such as intelligent home appliances, green petrochemicals, and modern agriculture and food) into pillar industries [5]. However, the task of structural upgrading remains challenging. Apart from Guangzhou and Shenzhen, most other cities have traditional industries with limited scale and output value, suggesting that the structural

transformation and upgrading of Guangdong's manufacturing industry will be a long-term process.

Secondly, the scale of producer services is inadequate, and the impetus for optimizing the manufacturing structure is insufficient. Producer services, which emerge as manufacturing evolves, function as essential components of the manufacturing structure and serve as catalysts for its expansion and structural optimization [6]. While the service sector in Guangdong has experienced rapid growth, producer services remain underdeveloped. For instance, in the United States, the service sector contributes 80% to the GDP, with 70% of this being producer services. Similarly, in the 27 EU member states, the service sector accounts for 78% of the GDP, with 50% of this attributed to producer services [2]. In 2023, the added value of producer services in Guangzhou constituted 56.6% of the tertiary sector [7], while in 2020, it represented 37.6% of the service sector's added value in Jiangmen [8]. The added value of producer services in the United States and EU countries comprises 60% to 90% of the service sector, whereas in some cities in Guangdong, it is around 50%, and in many others, it is even lower. This disparity highlights the significant gap between the development of producer services in Guangdong and international standards. Furthermore, compared to other leading cities in China, the ratios of the financial industry's added value to GDP in Guangzhou and Shenzhen were 9.01% [9] and 15.2% [10] in 2023, respectively, while in Beijing and Shanghai, these figures were 19.8% and 18.3% [7]. These statistics underscore the relative underdevelopment of producer services in Guangdong, which hinders the transformation and upgrading of the manufacturing industry.

4.2 In the Process of Modernizing the Manufacturing Industry Layout, a Significant Challenge Lies in the Inadequate Synergy and Integration

Firstly, the development within similar manufacturing industries is uneven, and the impetus for collaborative development is inadequate. The leading industries of various cities in Guangdong largely overlap. For example, the primary leading industries of Shenzhen, Dongguan, and Huizhou are predominantly computer, communication, and other electronic equipment manufacturing, whereas those of Foshan, Zhongshan, and Zhuhai are primarily electrical machinery industries [11]. Notably, there is a substantial disparity in the development of the computer, communication, and other electronic equipment manufacturing sector between Shenzhen and Huizhou, highlighting regional imbalances. Each city's manufacturing industry evolves based on its unique developmental foundation and strengths, leading to isolated and homologous competition. There is a lack of comprehensive strategic planning for the collaborative development system of similar manufacturing industries and the establishment of high-quality emerging industrial clusters led by "chain-head" enterprises. Strengthening regional cooperation and enhancing the collaborative development mechanism are imperative.

Secondly, the lack of robust cooperation among various manufacturing sectors hinders their mutual integration and innovation. Effective inter-industry connectivity and integration serve as critical points for cross-sectoral innovation, which is essential for fostering new business models and providing impetus for the overall transformation and upgrading of the manufacturing industry. In the new-generation electronic information industrial cluster in Guangdong, cities like Shenzhen, Dongguan, Guangzhou, and Zhuhai exhibit more differentiated collaboration, whereas Zhongshan and Jiangmen display a tendency towards homogeneity and weaker cooperation. The collaborative relationships among peripheral cities such as Zhaoqing, Huizhou, and Jiangmen are less pronounced and predominantly characterized by homogeneous development [12]. Overall, while the core cities demonstrate relatively strong collaborative ties, the cluster's overall collaborative development level remains low, necessitating the improvement and establishment of a more heterogeneous and integrated network.

4.3 In the Process of Modernizing the Circular Pattern of the Manufacturing Industry, it Faces the Challenge of Insufficient Impetus for both Internal and External Circulation

On one hand, there is a lack of sufficient domestic demand for domestically manufactured goods, which hinders the effective promotion of domestic circulation. In Guangdong Province, apart from high-tech products in cities like Shenzhen and Guangzhou, the majority of manufacturing products in other cities exhibit low-end characteristics and low added value, primarily situated at the lower end of the industrial and supply chains. As information technology continues to advance, these products clearly fail to meet market demands, leading enterprises to increasingly favor importing high-quality manufacturing goods. There is an urgent need to strengthen the growth in demand for domestically produced manufacturing products.

On the other hand, the instability of the international environment and the shortage of innovative products have weakened the driving force for external circulation. In recent years, geopolitical shifts and the manufacturing reshoring policies adopted by developed nations, including the United States, have impacted the export of manufacturing goods from Guangdong Province, which primarily relies on export-oriented processing trade. Simultaneously, industries in certain regions of Guangdong Province continue to focus on mid-to-low-end manufacturing, characterized by weak industrial innovation capabilities and low product value-added, hindering their ability to secure a high-end position in the global industrial chain and posing challenges in international competition. Even Shenzhen, a standout in Guangdong Province's development, has seen its high-tech product exports affected. In the first quarter of 2024, Shenzhen's export growth was primarily driven by traditional commodities such as mobile phones, computers, and household appliances, while the exports of emerging commodities declined. Specifically, lithium battery exports fell by 23.1%, and electric vehicle exports dropped by 55.6% [13]. Consequently, there remains significant potential for Guangdong's high-end manufacturing sector to enhance quality and efficiency and explore new overseas markets.

5. The Development Strategy Aims to Facilitate the Transformation and Upgrading of the Manufacturing Industry through the Application of New Quality Productive Forces.

5.1 Optimize the Manufacturing Structure through a Concurrent Development Strategy That Integrates Talent Reserves and Capital Strength

The key to optimizing the manufacturing structure lies in accelerating the development of high-end manufacturing and advancing the reform of productive service industries. In this process, the investment in "high-quality" labor and capital forms the essential human and financial support. Concerning talent reserves, firstly, the deep integration mechanism of industry-university-research collaboration should be expedited and refined. Establishing a tripartite cooperation framework among enterprises, universities, and research institutions can enhance the fundamental and applied research capabilities of "high-quality" labor, thereby improving their proficiency in researching, mastering, and applying advanced and innovative technologies. This lays a robust foundation for engaging in the research and development, technical operations, and management of high-end manufacturing products. Secondly, the talent acquisition strategy must be continuously optimized. Efforts should be made to attract top-tier domestic and international talents to participate in the advancement of high-end manufacturing and productive service sectors, fostering a conducive environment for talent growth, building an excellent innovation and entrepreneurship ecosystem, and ensuring the attraction and retention of exceptional talents [14].

The advancement of the high-end manufacturing sector not only depends on a workforce characterized by "new-quality" attributes but also requires consistent and stable financial support. To facilitate this capital flow, it is essential to first relax market entry criteria, thereby encouraging greater private investment in both the high-end manufacturing and advanced production service sectors. Enhanced support for businesses through more favorable policies and services can further diminish barriers to capital infusion into these industries. Additionally, crafting long-term regulatory measures is crucial for mitigating investment risks and bolstering investor confidence. Given

the inherent uncertainties associated with the growth of high-end manufacturing and its complementary production services, which elevate the risks of capital investment, policy design must prioritize sustainability. This approach aims to construct a robust link between enterprise needs and capital resources, thereby reinforcing systemic trust and facilitating the efficient allocation of capital.

5.2 Enhance the Layout of the Manufacturing Industry through a Systematic and Collaborative Strategy that Emphasizes Both Key Breakthroughs and Comprehensive Progress

Given the uneven development of the manufacturing sector in Guangdong Province, this study recommends focusing on core manufacturing areas to implement scientific and technological advancements and digital technologies, while simultaneously promoting the transformation and upgrading of traditional manufacturing industries and fostering inter-industry connectivity, with the aim of achieving comprehensive innovative development in the manufacturing sector.

Concerning the bottleneck issues in critical sectors, the foremost objective is to secure significant advancements. The manufacturing sector must prioritize the recruitment and development of talent, bolster the research, development, and deployment of core technologies tailored for "high-caliber" professionals, and achieve pivotal breakthroughs in the constraints of key technologies, components, and infrastructure [15]. Additionally, it is imperative to expedite the integration and empowerment through digital technologies in the realm of intelligent manufacturing. By leveraging advanced tools such as big data, cloud computing, the Internet of Things (IoT), and artificial intelligence (AI), a manufacturing framework can be established that facilitates the seamless fusion of digital innovations, thereby promoting the pervasive adoption and application of these technologies across all facets of the manufacturing value chain, ultimately leading to enhanced production efficiency and agile responsiveness to market dynamics [1].

Furthermore, an integrated development strategy encompassing the entire region, akin to playing a single game of chess, should be proactively formulated. A collaboration and communication framework between both similar and diverse manufacturing sectors must be established to foster a cohesive development paradigm. To achieve comprehensive progress, firstly, the expansion of the "industrial cluster network" within the manufacturing sector should be expedited to leverage the diffusion effects of knowledge and technology. The government should enhance the strategic planning of industrial clusters, harness the radiating impact of these clusters to facilitate specialization, and establish a cooperative industrial landscape. Secondly, inter-industry integration and collaboration should be promoted to nurture novel business models and practices. By leveraging the synergy between governmental and market forces, an interactive platform should be actively developed to encourage interdisciplinary and cross-sectoral knowledge and technology exchanges, thereby supplying essential elements for the emergence of innovative models and business forms. Concurrently, institutional innovations, including the enhancement of intellectual property protection and the refinement of industrial policies, are imperative to ensure the sustainable development of these new models and business forms [1].

5.3 Establish a Manufacturing Circulation Model by Coordinating Domestic and International Circulation Strategies

In response to the intrinsic need for transformation and upgrading of Guangdong's manufacturing industry, as well as the evolving international landscape, Guangdong aims to establish an integrated development framework that prioritizes the domestic cycle while complementing it with the international cycle.

For the domestic circulation, it is imperative to enhance the innovation, breakthrough, and mastery of advanced production technologies, and to deepen supply-side structural reform. This involves delving into cutting-edge technological fields such as artificial intelligence, cloud computing, digital twins, and the Internet of Things, thereby enhancing independent technological innovation, continuously improving production efficiency and product value, and achieving "stability through progress" by driving domestic demand through development. Additionally, it is

crucial to construct digital and intelligent platforms to address bottlenecks on the demand side. By leveraging big data, artificial intelligence, and Internet of Things technologies, these platforms can scientifically capture and analyze market demands, actively respond to market changes, and effectively meet domestic market needs.

For the international circulation, this study proposes constructing an "online + offline" model for an international cooperation and learning exchange platform. By engaging in deep exchanges and collaboration with manufacturing powerhouses like Germany, and by drawing upon their developmental experiences, it is anticipated that the development gap between Guangdong and these countries will be narrowed, thereby promoting the transformation and upgrading of Guangdong's manufacturing sector and leveraging the facilitative impact of new international productive forces. Additionally, it is essential to deepen the reform and development of the "Belt and Road Initiative," explore emerging markets [11], and actively engage in overseas market competition. This intense international competition is expected to compel the transformation and upgrading of Guangdong's manufacturing industry.

6. Conclusion

New quality productive forces is essential for advancing the high-quality development of the manufacturing industry. This concept encompasses the significant enhancement of laborers, means of labor, objects of labor, and their optimal integration. Marked by a substantial increase in total factor productivity, new quality productive forces is characterized by advanced technology, high efficiency, and superior quality. Presently, Guangdong's manufacturing sector faces challenges such as inadequate structural optimization, poor layout coordination, and weak internal and external circulation dynamics. To address these issues, strategic optimization and upgrading are necessary, achieved through the concurrent development of talent and capital, systematic and coordinated progress, and comprehensive planning of internal and external circulation.

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