Research on Countermeasures of Guangxi Small and Medium-Sized Enterprises' Value Chain Climbing Under the Background of Digital Economy

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Abstract: Guangxi is an important channel to connect China and ASEAN in "the belt and road initiative" and an important window to promote open communication and cooperation. The small and medium-sized enterprises in Guangxi urgently need to use "digital economy" as a new "engine" to gain new momentum and promote its accelerated development. This paper focuses on the small and medium-sized enterprises in Guangxi. Through the analysis of the current situation and difficulties of the small and medium-sized enterprises moving up the value chain in Guangxi during the post-epidemic period, it is found that the scale of small and medium-sized enterprises in Guangxi is increasing, which leads to the pressure of market competition, coupled with the relative shortage of funds, poor innovation ability, insufficient market, lack of human resources and other issues. It further puts forward the corresponding countermeasures and measures to improve the market mechanism and system, establish a platform cooperation mechanism, provide financial policy support for small and medium-sized enterprises, and transport talents.

Keywords: Guangxi; digital economy; small and medium-sized enterprises; up the value chain

1. Introduction

At present, the international situation is complicated and changeable. On the one hand, under the influence of the political and economic situation in Europe and the United States, the phenomenon of "anti-globalization" has emerged. The world economy is in structural recession, trade protectionism is on the rise, the global multilateral mechanism is sluggish, regional and sub-regional cooperation is on the increase, and trade barriers are on the rise. All countries in the world are facing severe challenges [1]. On the other hand, new technological revolutions such as big data, cloud computing and artificial intelligence, as well as new trade models such as cross-border e-commerce and digital trade are accelerating the restructuring of the world value chain and affecting the division of labor and the pattern of comparative advantages worldwide [2]. Since the reform and opening up, China's enterprises have developed rapidly and made breakthrough achievements in many fields, especially in the high-end fields such as digital economy, which have already played a decisive role in the world. However, although the local enterprises in our country have realized the upgrading and development of the value chain, the developed countries have "captured" the OEM enterprises in the developing countries and restricted the development of the small, medium and micro-sized enterprises in the developing China countries.
due to the natural gap between themselves and the status of the world value chain, taking advantage of their own technology and market advantages. Recently, the China government issued the document "Overall Layout Plan for the Construction of Digital China", which clarifies the role of the digital economy in promoting China's modernization and the digital development goals. According to the plan, by 2025, digital China will basically form an integrated propulsion pattern with horizontal connectivity, vertical connectivity and strong coordination. By 2035, the level of digital development will enter the forefront of the world. In addition, the Plan also clarifies the overall framework and important changes of the Digital China, including consolidating the digital foundation, further improving the data resource system and promoting the high integration of Digital Technology with the construction of economic, political, cultural, social and ecological civilization, strengthening the innovative capability and safety barrier of Digital Technology, expanding the development of Digital Technology at home and abroad, enhancing the development of the digital economy from the overall layout, and promoting the deep integration of digital economy, digital technology and real economy, deepening the transformation of digital drive in production, life and governance.

However, there are still many challenges in the digital transformation of small and medium-sized micro-enterprises in Guangxi. Among them, the lack of digital technology capability, information asymmetry and financing difficulties are the main factors that restrict the digital transformation of small, medium and micro-sized enterprises in Guangxi. As an important window connecting "the belt and road initiative" and an important link of two-way opening, exchange and cooperation between "China and ASEAN", Guangxi urgently needs small and medium-sized enterprises to take their unique advantages, take the opportunity of digital transformation, and cross-border integration driven by the Internet effect to explore new value growth points. This topic takes the huge impact of digital economy on the traditional way of trade as a clue, analyzes the current situation and predicament of the value chain of Guangxi's small and medium-sized enterprises in the post-epidemic era, and puts forward some policy suggestions on how to promote the value chain of Guangxi's small and medium-sized enterprises in the digital economy, which provides support for the high-quality development of Guangxi's small and medium-sized enterprises and has certain academic characteristics [3].

2. The Basic Situation of Small and Medium-Sized Enterprises in Guangxi

2.1. The Category, Quantity and Scale of Small and Medium-Sized Enterprises in Guangxi

The main categories of SMEs in Guangxi include manufacturing, construction, business, information technology and software, cultural and creative industries and modern service industries. Among them, the production categories of small, medium and micro-sized enterprises are mostly concentrated in the low-end zone of the value industry chain, lacking high-quality and high-tech high-tech industries. Their category structure is not reasonable enough, lagging behind the level of industrial category structure in developed countries. By the end of 2020, there were 2.194 million SMEs in Guangxi, up 3.9% year-on-year. Among them, there were 1.826 million micro-enterprises, accounting for 83.2%. There were 307,000 small enterprises, accounting for 13.9%. There were 61,000 medium-sized enterprises, accounting for 2.8%. It can be seen that in recent years, small and medium-sized enterprises in Guangxi have continued to develop, accounting for a large proportion of the enterprise scale structure in Guangxi, and they are an important driving force for Guangxi's economic development that cannot be ignored. According to statistics, there are 6.063 million registered enterprises in Guangxi province. The year 2020 was the year with the highest growth rate of enterprises in Guangxi Province, when the growth rate of enterprises reached 44.43%, and the year with the highest growth rate was also 2020, when the number of registered enterprises reached 825,000. In the past decade, the number of registered enterprises in Guangxi Province accounted for 66.31% of the total number of registered enterprises in history [4] (Figure 1). From the information, we can see that the pace of enterprise transformation in Guangxi Province is very fast, and the emerging enterprises are very dynamic, but at the same time they are also facing the challenge of increasingly fierce market competition.
Small and medium-sized enterprises in Guangxi were born and developed in the process of reform and opening up. However, due to the reasons of the economic system transition period and the influence of various factors, the development of small and medium-sized enterprises is very difficult. The development of small and medium-sized enterprises in Guangxi has experienced a change from scratch, from weak to strong, from scattered to centralized, from extensive to intensive, from small to large, from manual workshop production to mechanized production. After years of efforts, small and medium-sized enterprises in Guangxi have established a relatively perfect production and operation management system and a high level of enterprise management, which have played an important role in absorbing the employment of rural surplus labor force, solving the employment of surplus labor force and stimulating rural economic growth. As shown in Table 1, by the end of 2021, the total number of small and medium-sized enterprises in Guangxi had reached 1,179,000, representing a year-on-year increase of 8.7%. Among them, the number of small and micro enterprises reached 1.098 million, accounting for 93.1% of the total number of small and medium-sized enterprises. The existence and development of small and medium-sized enterprises in Guangxi have shown a positive trend, which mainly benefits from two aspects: on the one hand, government support: Guangxi has issued a series of policies to support the development of small and medium-sized enterprises, such as financial support, tax incentives, financing support, etc., which provide a good development environment and policy guarantee for small and medium-sized enterprises. On the other hand, it has benefited from the rapid economic growth. Guangxi is an important economic center in the southwest of China, and its total economic volume and growth rate are among the highest in the country. The rapid economic development in Guangxi has provided a vast market and development opportunities for small and medium-sized enterprises. From the above data, we can see that the number of small and medium-sized enterprises in Guangxi, the number of employees and economic indicators have shown a year-on-year growth trend.
2.3. The Financial Situation of SMEs in Guangxi

According to the Report on the Development of Small and Medium-sized Enterprises in Guangxi Zhuang Autonomous Region in 2020, the scale of total assets of small and medium-sized enterprises in Guangxi has continued to expand. By the end of 2019, the total assets of small and medium-sized enterprises in Guangxi had reached RMB1.88 trillion, representing a year-on-year increase of 9.5%. In terms of liabilities, the major sources of liabilities of Guangxi's small and medium-sized enterprises are bank loans and accounts payable. At the end of 2019, the total liabilities of Guangxi's small and medium-sized enterprises reached RMB1.12 trillion, representing a year-on-year increase of 11.3%. In terms of owner's equity, at the end of 2019, the total owner's equity of small and medium-sized enterprises in Guangxi amounted to RMB764.8 billion, representing a year-on-year increase of 3.2%. (See Table 2) From the data, it can be seen that the total assets, total liabilities and total owner's equity of small and medium-sized enterprises in Guangxi have increased in the past five years. Among them, total assets increased by 57.1% from RMB1.19 trillion in 2015 to RMB1.88 trillion in 2019; Total liabilities increased by 47.4% from RMB0.76 trillion in 2015 to RMB1.12 trillion in 2019; Total owner's equity increased by 76.7% from RMB0.43 trillion in 2015 to RMB0.76 trillion in 2019. In addition, judging from the year-on-year growth rate, the total assets of small and medium-sized enterprises in Guangxi increased by 9.5%, total liabilities increased by 11.3% and total owner's equity increased by 3.2% in 2019. Generally speaking, the balance sheet and owner's equity of small and medium-sized enterprises in Guangxi show an overall growth trend, but the debt growth rate is relatively fast, which requires strengthening the management of enterprise balance sheet and risk control.

Table 2. Major financial data of Guangxi SMEs from 2015 to 2019 (Billion).

<table>
<thead>
<tr>
<th>year</th>
<th>total assets</th>
<th>total liability</th>
<th>Total owner's equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>1.19</td>
<td>0.76</td>
<td>0.43</td>
</tr>
<tr>
<td>2016</td>
<td>1.38</td>
<td>0.89</td>
<td>0.49</td>
</tr>
<tr>
<td>2017</td>
<td>1.61</td>
<td>1.01</td>
<td>0.60</td>
</tr>
<tr>
<td>2018</td>
<td>1.72</td>
<td>1.00</td>
<td>0.72</td>
</tr>
<tr>
<td>2019</td>
<td>1.88</td>
<td>1.12</td>
<td>0.76</td>
</tr>
</tbody>
</table>


2.4. Guangxi SME Employees

The number of employees in small and medium-sized enterprises has been increasing year by year (See Table 3), from 2.293 million in 2015 to 2.874 million in 2019, representing an increase of 25.3%. The
proportion of employees with college degree or above in small and medium-sized enterprises increased year by year, from 31.2% in 2015 to 36.5% in 2019, representing an increase of 17.9%. On the whole, the talent structure of small and medium-sized enterprises has been gradually optimized, and the proportion of highly educated employees has increased year by year. At the same time, the growth rate of the number of employees in small and medium-sized enterprises is higher than that of the proportion of highly educated employees, indicating that small and medium-sized enterprises in Guangxi are experiencing certain pressure of talent shortage and need to further strengthen talent introduction and training. Based on the above analysis, it can be concluded that there are still some problems and challenges in the talent of small and medium-sized enterprises in Guangxi. It is necessary to strengthen the talent management, training and introduction, and enhance the core competitiveness and sustainable development of small and medium-sized enterprises.

<table>
<thead>
<tr>
<th>age</th>
<th>Number of employees (10,000)</th>
<th>Number of new jobs in small and medium-sized enterprises</th>
<th>Proportion of employees with college degree or above</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>229.3</td>
<td>--</td>
<td>31.2%</td>
</tr>
<tr>
<td>2016</td>
<td>244.5</td>
<td>200,000</td>
<td>32.5%</td>
</tr>
<tr>
<td>2017</td>
<td>260.7</td>
<td>220,000</td>
<td>33.8%</td>
</tr>
<tr>
<td>2018</td>
<td>274.5</td>
<td>240,000</td>
<td>34.7%</td>
</tr>
<tr>
<td>2019</td>
<td>287.4</td>
<td>260,000</td>
<td>36.5%</td>
</tr>
<tr>
<td>2020</td>
<td>--</td>
<td>280,000</td>
<td>--</td>
</tr>
</tbody>
</table>

Source: China government statistics, Guangxi small and medium-sized enterprises bureau.

3. Difficulties in Promoting the Value Chain of Guangxi's Small and Medium-sized Enterprises by Digital Economy

3.1. SMEs Are Facing "Low-End Lock-in" of Global Value Chains

China's small and medium-sized enterprises are an important part of the national economy, but on the whole they are still at the low end of the global value chain. With the increase in the technological content and added value of products, due to the intensification of global technological competition and the imposition of control and restriction on some technological exports from developed countries to China, some enterprises have been "locked down at the low end" and gradually lost their market, especially the vast number of labor-intensive industries are facing the risks of "locked down at the low end" and "hollowing out" [5]. In recent years, although the development momentum of small and medium-sized enterprises in Guangxi is strong, due to the lack of independent innovation ability, lack of brand advantages, lack of independent intellectual property rights, lack of core technology and talents and other issues, the development of small and medium-sized enterprises in Guangxi has been in the low-end industrial chain. According to the Implementation Opinions of the Guangxi Zhuang Autonomous Region Department of Industry and Information Technology on Accelerating the Upgrading of Processing Trade of Guangxi's Small and Medium-sized Enterprises, at present, most of Guangxi's small and medium-sized enterprises are mainly engaged in processing trade, mainly concentrated in hardware, furniture, building materials, textiles, toys, electronics and other industries. With the development of international industrial division of labor, more and more multinational enterprises have moved their production bases abroad. As large enterprises are in the leading position in digital technology, they can restrict the digital connection of small and medium-sized enterprises or monopolize innovative digital systems to strengthen their exclusive interests. Such monopolies have resulted in small businesses likely to be stuck at the bottom of the digital-based production network as large businesses move deeper into the value chain. Guangxi's existing industries such as electronic information and new materials are dominated by low-end value chains such as processing and
manufacturing [6], the number of market players participating in the high-end segment of the value chain is small, and the potential for development is insufficient. It is difficult to form and release the momentum of sustainable digital economic cooperation for ASEAN.

3.2. SMEs Can Not Afford to Participate in the Value Chain of High Fixed Costs

In the global value chain, although most enterprises’ main profits come from value-added links in the value chain, there are also a few enterprises that obtain higher added value through low-cost inputs of production factors, and in these links with higher added value, small and medium-sized enterprises often lack corresponding advantages. When participating in the global value chain, small and medium-sized enterprises in Guangxi are facing opportunities brought by the transfer of international production division on the one hand, and higher cost pressure from domestic producers on the other. Due to the small scale, relatively low technology level, relatively low management level and relatively high cost of capital, labor and other factors of SMEs, it is difficult for SMEs to move up the value chain in the global value chain. Although the Guangxi government has issued a lot of support and preferential policies for the regional SMEs in recent years, SMEs are still facing many difficulties in entering the upstream of the value chain. From the perspective of cost, due to the relatively low concentration of manufacturing industry in China, small and medium-sized micro-enterprises are often difficult to enter some key technological links. In addition, some leading enterprises in the industry are generally located at the top of the value chain due to their strong financing and technological innovation capabilities, and they monopolize and block small, medium and micro-sized enterprises, which greatly hinder small and medium-sized enterprises in Guangxi from entering the high-end field.

3.3. Guangxi SMEs Are Facing Financing Difficulties

Guangxi is a relatively backward region in the west. Most of the small, medium and micro-sized enterprises have a low starting point, a weak foundation and limited funds. This has greatly increased the operational difficulty and operational risks of the small, medium and micro-sized enterprises' foreign investment. In addition, the problem of inefficient supply chains has led large investors to concentrate their funds in regions with better economic development. At the same time, banks are usually more inclined to provide loans to large-scale enterprises or enterprises with existing assets pledged. Small and medium-sized enterprises often lack credit guarantee and may not be able to provide sufficient guarantee or credit background. In particular, high-tech enterprises may not have established a stable credit record in the initial stage of their business, which makes banks and other financial institutions treat their loan applications more cautiously. This has further led to problems such as financing difficulties and shortage of funds for small and medium-sized enterprises in Guangxi, and further restricted small and medium-sized enterprises from moving to "high-end areas".

3.4. Guangxi SMEs Lack of Technical and Management Personnel

In Guangxi's small and medium-sized enterprises, many enterprises' core technology or management talents are imported from universities and scientific research institutes, and some enterprises have imported many high-level technical talents from universities and scientific research institutes by means of high salaries. However, the majority of small and medium-sized enterprises, especially labor-intensive enterprises, have problems such as the shortage and mobility of high-level talents and the lack of personnel training opportunities, and many small and medium-sized enterprises are even unable to pay higher salaries. These phenomena reflect that the overall quality of Guangxi's small and medium-sized enterprise talent team is not high, and the phenomenon of high mobility, strong mobility and no retention of technical personnel is more prominent. According to the survey report on talent flow in China, the net outflow rate of senior talents from Guangxi enterprises in major domestic cities in 2020 was 29.31%, ranking second in the country, and the net inflow rate of talents in Guangxi was 7.37%, ranking second from bottom in the country. It can be seen from this that due to the restriction of factors such as business environment and staff treatment, there are problems such as too much labor mobility and too little total human resources in Guangxi, especially the shortage of professional and managerial talents. At
present, the structure of knowledge and skills of the talent team is not reasonable, and the brain drain is very serious, which not only has a great impact on the business performance of the enterprise, but also has a certain restriction on its future development.

4. Countermeasure and Suggestion


First, the government should strengthen the planning and reduce the barriers to the digital transformation of small and medium-sized enterprises. Create a good market environment for the digital transformation and upgrading of small and medium-sized enterprises in Guangxi, and further standardize the benign operation of the digital economy [7]. Second, strengthen the supervision and management of the digital economy, strengthen the transparency of supervision and management, and improve the competitiveness of small and medium-sized enterprises in the digital economy. By encouraging the platform companies to improve the operation system, maintain their competitive market structure, and reduce the efficiency reduction and welfare loss caused by the monopoly of the platform companies. Third, the government advocates the accommodation of large, medium and small enterprises to maximize the benefits of the industrial chain. Cooperation between small and medium-sized enterprises can share important information, knowledge and skills. Specific measures for economic and technological cooperation include holding small and medium-sized enterprise technology exchange exhibitions, publicizing the innovative practical experience of small and medium-sized enterprises, and establishing a regional enterprise database [8].

4.2. The Establishment of a Platform Cooperation Mechanism to Reduce the Difficulty of Value Chain Connectivity of Small and Medium-Sized Enterprises in Guangxi

In the aspect of internal environment, corporate executives should actively guide, build technological innovation platforms, make full use of enterprise technology centers and engineering technology research centers at all levels, and promote embedded cooperation among large, medium, small and micro enterprises to coordinate innovation. In key areas, equipment sharing, production capacity docking and production coordination will be realized, and the pattern of deep coordination, mutual support and coordinated development of large, medium and small and micro enterprises will finally be realized [8]. The government should strongly support and encourage universities, research institutions and enterprises in China and ASEAN countries to jointly build a platform for digital science and technology innovation, enhance China's research and development level in emerging information technology fields such as the Internet, artificial intelligence, big data, cloud computing and block chains, and make breakthroughs in key core technologies. In the external environment, we will build a cross-regional exchange and cooperation platform and improve the existing dialogue and exchange mechanism between China and ASEAN. Reduce the difficulty of value chain connection of small and medium-sized enterprises in Guangxi, and reduce the loss of benefits and welfare caused by platform monopoly. Guangxi, as a land and sea adjacent region to ASEAN, has gradually become a pioneer in the cooperation between China and ASEAN, and has built an important bridge between China and ASEAN countries.

4.3. To Provide Financing Support for Small and Medium-Sized Enterprises, and Vigorously Promote the Digital Transformation of Small and Medium-Sized Enterprises

First, as the main body of macro-control, the government should strengthen its support to small and medium-sized enterprises, reduce their financing costs and digital transformation costs by formulating preferential policies and providing financial support, and provide loans and venture capital support for small and medium-sized enterprises by establishing special funds. The government can provide certain guarantee, formulate relevant policies to promote banks and other financial institutions to actively participate in the financing of small and medium-sized enterprises and the digital transformation, provide appropriate financing products and
services, and create better financing conditions for small and medium-sized enterprises. Secondly, we should strengthen the construction of credit rating system for small and medium-sized enterprises and establish a reliable credit guarantee system. The government can encourage financial institutions to participate in the construction of SME credit rating system through financial support or tax incentives, and provide credit record guarantee for SMEs [9]. Then, we will further promote the digital transformation of small and medium-sized enterprises to enhance their market competitiveness and financing capabilities. The government can promote the digital transformation of small and medium-sized enterprises by supporting digital technology, research and development, promotion of digital applications and other ways, and improve their credibility in the eyes of financial institutions. As the main body of the market, small and medium-sized enterprises should actively promote the digital transformation and improve the management level, so as to achieve more efficient production, marketing and management, and improve the profit margin and market competitiveness. In addition, small and medium-sized enterprises should actively carry out marketing activities through channels such as the Internet and social media in order to attract more customers and users, and thus improve brand awareness and market share.

4.4. For Small and Medium-Sized Enterprises to Import Talent, Provide Talent Support

One is to strengthen the training and introduction of digital economy talents. The government can formulate relevant policies to encourage enterprises to increase investment in staff training and improve staff skills; At the same time, strengthen cooperation with institutions such as universities and scientific research institutes, and introduce talents to improve the technological innovation ability and competitiveness of enterprises. The second is to improve the remuneration package and staff welfare. The government can formulate corresponding policies to encourage enterprises to give employees reasonable remuneration and benefits in order to improve the sense of belonging and stability of employees and reduce brain drain [10]. The third is to establish a talent sharing platform and a Industry-University-Research cooperation mechanism. The government can strengthen its cooperation with institutions such as universities and research institutes, and establish a Industry-University-Research cooperation mechanism to promote the transformation and application of scientific and technological achievements. We will strengthen the construction of small and medium-sized enterprise incubators, provide small and medium-sized enterprises with entrepreneurship training, technical advice, marketing and other services, and encourage venture capital institutions to participate in small and medium-sized enterprise investment.

5. Conclusion

This paper focuses on the small and medium-sized enterprises in Guangxi, and objectively analyzes the current situation and difficulties of the value chain upward movement of small and medium-sized enterprises in Guangxi in the post-epidemic period through specific data, and puts forward relevant solutions. However, in reality, small and medium-sized enterprises have a large number and wide coverage, and it is relatively difficult to collect and sort out data. Meanwhile, the value chain upward movement of small and medium-sized enterprises in Guangxi is a complex process, which involves many aspects, including organizational structure, management process, personnel training, etc. Considering the above factors, this study has certain limitations.

For the countermeasures of future research, researchers can cooperate with local governments, chambers of commerce and other institutions to obtain relevant data of small and medium-sized enterprises through surveys, questionnaires and other means, and at the same time establish a perfect database to strengthen the integration and analysis of data; On the other hand, it deeply analyzes the influencing factors of the value chain rise of small and medium-sized enterprises in Guangxi. Combining with the actual situation, it deeply studies the factors of policy environment, market demand, personnel training and other aspects, as well as the characteristics and differences of digital transformation in various industries. The transformation and upgrading of small and medium-sized enterprises in Guangxi need certain personnel support. Therefore, future research needs to pay attention to personnel training and popularization in the process of small and medium-sized enterprises’ value chain climbing, how to train the personnel needed for digital transformation and upgrading, how to popularize
digital technology knowledge and other issues.

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