

The European Union Supports the Digital Transformation Development of SMEs Policy Propositions and Enlightenment

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Abstract

Small and medium-sized enterprises play an important role in economic operation. The COVID-19 pandemic in 2020 has impacted small and medium-sized enterprises. The EU proposes to support the development of SMEs and introduce measures to encourage them to make digital transformation and achieve sustainable development. Similar to other countries, SMEs in the EU also encounter difficulties in improving their capabilities due to their limited scale, grasping the market due to their limited coping ability, and obtaining investment due to their limited confidence in investment when facing digital transformation. The EU's proposed countermeasures include enhancing the capacity for sustainable development and digital transformation, reducing regulatory burden and increasing market access, improving financing channels and reducing financing difficulty and cost, etc. On the basis of existing measures, China can learn from the experience of the EU to help digital transformation by addressing "pain points", creating a business-friendly environment for SMEs, reducing investment risks and innovating financing forms.

Keywords

Small and Medium-sized Enterprises; Digital Transformation; Sustainable Development; The European Union.

1. Introduction

SMEs in many countries play a huge role in promoting growth and stabilizing employment, and the EU is no exception. There are about 25 million SMEs in EU countries, absorbing about 100 million labor force, creating more than half of EU GDP and playing a unique role in addressing climate change. However, the COVID-19 pandemic has hit these companies in different degrees. In the "EU Next Generation" economic stimulus plan proposed by the EU in May 2020 to address the impact of COVID-19, green recovery and digital transformation are listed as the main development directions. The stimulus package supports and promotes the development of small and medium-sized enterprises, noting in particular that the smooth transformation of SMEs to digital and sustainable development will play an important role in enhancing the competitiveness and resilience of the EU. To this end, the European Commission has launched a series of proposals and policies. At present, China is in a

critical period of doing a good job in the "six stability" work and implementing the "six stability" task. It is necessary to give full play to the role of small and medium-sized enterprises. Analyzing the difficulties encountered by EU SMEs in the process of transformation and upgrading and referring to the policies put forward by EU can provide reference for the development and transformation of SMEs in China.

2. The difficulties of EU SMEs' transformation

In the process of development and transformation, SMEs in the EU face challenges and difficulties in obtaining information, market access and investment, which are also problems faced by SMEs in other countries. Specifically, it mainly includes the following three aspects.

2.1 Its limited scale, ability to improve difficult

There are already a number of SMEs in the EU that have transformed themselves by providing green products or services through flexible mechanisms and innovation. But its small scale poses three difficulties. First, enterprises are unable to benefit from the digital economy due to their insufficient reserves of digital transformation capacity. Faced with the rapid progress of the digital economy era, small and medium-sized enterprises have not prepared the capacity reserve of transformation, and have not realized the value that data will bring. The results of the 2018 survey showed that only 17% of SMEs in the EU were able to effectively integrate digital technology into their business, compared to 54% of large companies [1]. At the same time, these companies lack expertise, so they face challenges in using the massive amounts of data commonly used by big companies and have to eschew advanced tools based on data and artificial intelligence.

Second, the enterprise lacks enough skilled digital staff and managers. Their small size, relatively low wages and few training resources limit their ability to invest in digital training. According to the European Central Bank's 2019 survey, over 7% of SMEs stated that lack of talent was a hindrance to investing in the EU, while a quarter of SMEs still cited finding skilled technical staff or experienced managers as their most serious problem. The problem is exacerbated by a lack of digital skills in a third of the workforce.

Third, the lack of other professional auxiliary personnel. According to the EU report, about a third of SMEs say they face complex administrative and legal procedures in transitioning to a sustainable business model. Enterprises in construction, plastic products and other industries are under pressure from environmental protection in the process of transformation, but due to their small scale, they lack professionals to interpret laws and reduce transformation risks.

2.2 Coping ability is limited, grasp the market difficulty

The EU's single market is an area within the EU that has no borders, guaranteeing the free movement of people, goods, services and capital. However, according to the statistics of the European Union, only about 17% of small and medium-sized manufacturing enterprises export in the single market in recent years [4], indicating that the cross-border operation of small and medium-sized enterprises is still greatly hindered. It mainly includes the following aspects. First, administrative costs remain high. In the business services sector, compliance procedures for SMEs can cost up to €10,000. The impact of such costs on small and medium-sized enterprises is greater than that of large enterprises. EU member states have different laws and regulations for SMEs, which make SMEs lack energy to conduct cross-border operations. Large intermediary platforms will charge higher intermediary fees. Second, it is difficult to participate in the public procurement market and there are few opportunities for competition. It is difficult for small and medium-sized enterprises to be favored by purchasers when they participate in public procurement bidding. On the one hand, buyers tend to choose stable products and services out of the risk aversion, distrust the technical level and contract performance ability of SMEs, and are reluctant to accept innovative products and services of SMEs [5]. On the other hand, many bidding rules and requirements are complicated, and it is difficult for SMEs to meet all the requirements.

Third, SMEs are prone to unfair online business platforms. Some small and medium-sized enterprises in the EU have tried digital transformation. When they operate online, they usually face large companies or institutions due to the high degree of vertical integration of supply chain. SMEs have limited bargaining power and are at greater risk of unfair business conditions such as delayed payment. In eu, only about 4% enterprises can pay on time, and one quarter of SMEs' bankruptcy is caused by late payment [6]. In international trade, SMEs lack the ability and means to deal with international trade barriers. These factors have a negative impact on the digital transformation of SMEs.

2.3 Investment confidence is limited, investment and financing difficulties

Small and medium-sized enterprises need to obtain funds in the stage of transformation and development, but financing is more difficult for them. Such enterprises often lack reliable financial records and collateral. SMEs in the EU face a funding gap of 20 to 35 billion euros, and it is common for banks to reduce loans to SMEs out of risk aversion. In 2019, about one-fifth of SMEs did not receive all planned bank loans, causing operational pressure. In this case, the importance of diversification of capital sources highlights. Venture capital is crucial for start-ups. In 2018, the European company access to the risk of investment grew by 13%, to 800 million euros, but the size is only about one 8 of that in the United States, the United States has more than 25% of the companies use the capital market financing, while only 1% of the European Union, European investors did not have enough confidence to invest in startups, because this kind of enterprise can be used in the valuation information is not enough, It is difficult to estimate the market potential of their new technology products or services. "Tech due diligence" services have been more effective in addressing this problem in other regions, but they have yet to take off in Europe and have only recently been piloted. In addition to venture capital and science and technology venture enterprise investment, small and medium-sized enterprises in the traditional capital market is also difficult to obtain the favor of institutional investors. Initial public offerings (ipos) of SMEs in capital markets fell sharply after the financial crisis and have not recovered effectively. The number and value of ipos in the EU fell by 47% and 4% respectively in 2019 compared with 2018.

3. The EU supports the policy proposition of transformation and upgrading

In order to help SMEs get rid of the difficulties they encounter in the process of transformation and upgrading, the EU has recently put forward a series of policy proposals to deal with these problems in a targeted manner and provide three categories of support for SMEs in the EU.

3.1 Enhance sustainable development and digital transformation capacity

In order to achieve the sustainable competitiveness of the EU, it is necessary to mobilize the enthusiasm of SMEs to improve the capacity of these two aspects, and provide help from the three aspects of "support platform, digital empowerment and talent training". First, a variety of support platforms to expand the scope of services to promote sustainable development. The Eu's Sustainable Development Institute can assess the needs of SMEs, advise them on transformational investments and guide them in selecting partners. EEN, with hundreds of members, can collaborate with other platforms to provide tailored transformational capacity enhancement services for SMEs across a wider range of businesses. Second, the number of SMEs to empower. The European Union has set up the Digital Innovation Center (DIH) to provide SMEs with access technologies such as the Internet. Funding comes from digital Europe and related funds. Through cooperation with EEN, DIH closely links government and enterprises to provide all-round seamless support for the digital transformation of SMEs. At the same time, DIH also promotes digital transformation experience and technology to other enterprises for absorption and reference. In addition, based on the European Data Strategy, the Commission will expand the accessibility of government data, facilitate the flow of data between enterprises and governments, and provide targeted support for the use of data and cloud platforms by SMEs. Third, take multiple measures to improve the human resources of SMEs. There are two main types of measures. On the one hand, we will train the practitioners of small and medium-sized enterprises to improve their digital skills and business platform operation experience through a crash

course of digital knowledge, and get to know artificial intelligence, block chain and other advanced technologies to improve their awareness of using them. On the other hand, rely on external support. Through the "digital Volunteers" project, young technicians can help traditional enterprises improve their digital capabilities in a targeted way and bridge the "digital divide". In addition, the European Commission uses the European Regional Development Fund to provide SMEs with training in the skills needed by the market to help them make the smart transition.

3.2 Reduce regulatory burdens and increase market access

The EU reduces the burden on SMEs from different dimensions and increases their market access and competitive opportunities. First, we will reduce institutional and legal burdens. The EU has put forward the principle of "use only once" and "default digitalization", and requires all member states to strictly implement it. At the same time, the government is considering analyzing the possibility of simplifying and reducing administrative burden in existing legislation, and increasing the voice of SMEs in future legislation to give them a channel to express their opinions. On business operations, the EU reaffirms its commitment to ensuring single market rules to prevent SMEs from obstructing the movement of their products, capital and people across borders, and to providing services to help address tax compliance issues in cross-border operations. The second is to provide more opportunities for competition. The Commission encourages countries to provide opportunities for SMEs in public procurement by increasing the number of contracts and the scale of procurement, and by promoting opportunities for SMEs to participate in cross-border public procurement bidding through digital platforms. In areas such as space and defense technology, large system integrators are encouraged to connect with small and medium-sized enterprises in defense-related systems so that they can participate in these large projects. At the same time, digital technology is used to connect buyers and suppliers, so that buyers can track the progress of suppliers in real time and reduce the cost of supervision. Third, improve the fairness of digital platform operation and expand business scope. In view of SMEs' weak bargaining power and high proportion of receivables, the Commission will reduce payment delays through robust monitoring and enforcement tools and explore mediation mechanisms for SMEs to quickly resolve payment disputes in commercial trade. At the same time, the EU will use digital platforms to help SMEs connect to international markets, and in trade and investment agreement negotiations with other countries, ask them to reduce trade barriers impeding SMEs, and increase opportunities for SMEs to compete fairly in the global market.

3.3 We will improve financing channels and reduce the difficulty and cost of financing

The EU has also put forward a number of measures to solve the financing problems faced by SMEs. First, broaden financing channels and reduce investor risks. In order to reduce the risks and concerns of private investment, in the area of venture capital, the Commission will try new ways of sharing risks with the private sector, such as the ESCALAR programme aimed at expanding the size of the venture capital Fund, in order to attract private investment and thus diversify the sources of funds for companies at different stages of development. In the stock market, public funds serve as anchor investment to absorb private investment for innovative SMEs with high growth.

Second, create a more favorable environment for financing. From a governance perspective, the EU will review eu state aid rules by the end of 2021, under which the EU and member states can provide greater support for venture capital in SMEs. From a technology perspective, blockchain-based fintech innovations can open up new ways for SMEs to communicate directly with investors. SMEs can issue corporate bonds in the form of crypto assets and digital tokens, thus forming a faster and more cost-effective financing method. The Commission will also provide technical infrastructure and security support for blockchain finance, in line with the EU's upcoming digital finance strategy.

Third, attract different levels of financing for SMEs through InvestEU project. Drawing on the experience of the existing SME guarantee scheme, the Commission will create an independent comprehensive guarantee scheme covering innovative enterprises, cultural and creative enterprises, sustainable development model enterprises and SMEs in the digital economy. This model can leverage multiple levels of investment from the state to the private sector. In turn, the funds from

these companies can promote the development of digital and green technologies to create more value after commercialization. The Commission will also work closely with member States to strengthen online financing through the Digital Innovation and Scale-up Initiative to address geographical imbalances in investment and financing channels.

4. It can be used for reference to support the transformation and development of small and medium-sized enterprises in China

In recent years, China's small and medium-sized enterprises have contributed more than 60% of GDP and more than 8% of urban employment. However, the COVID-19 pandemic is also having an unprecedented impact on SMEs. A number of measures have been taken to provide direct assistance and support to SMEs. In order to make SMEs not only "survive" in the recovery process, but also have stronger vitality, we can learn from the eu's practice to provide support for SMEs to adapt to the future market through digital transformation. Work can be done in the following three areas.

4.1 Addressing pain points facilitates digital transformation

Survey data show that only about 25% of Enterprises in China have carried out digital transformation, and the epidemic has a great impact on SMEs that have not yet carried out digital transformation, which has also brought external pressure for transformation. In April this year, the National Development and Reform Commission and the Cyberspace Administration of the CPC Central Committee jointly issued the Implementation Plan on Promoting the "Use numbers to Enrich the Wisdom of the Cloud" action to foster new Economic Development, pointing out that the digitalization of industries should be accelerated to help small, medium and micro enterprises transform out of difficulties. This shows that the CPC Central Committee and The State Council have attached great importance to the digital transformation of SMEs. Taking into account the experience of the EU and China's reality, measures will be taken to help SMEs overcome difficulties in transition. First, collect and sort out "pain points" to help SMEs build confidence in transformation. Summarize and promote the good experience of transformation in various industries, and collect and sort out the "pain points" in transformation awareness and ability. Targeted solutions should be established for each kind of "pain points", and the combination of "encouraging successful cases + solving key problems" can help SMEs build confidence in transformation. Second, form an online comprehensive service platform for digital transformation. The number of small and medium-sized enterprises in China is large, with different needs and wide geographical distribution. The online comprehensive service platform of digital transformation can connect with experts familiar with the different stages of transformation for enterprises in need and provide targeted guidance through sharing expert mode. Not only can enterprises get timely and effective guidance, but also save experts' time, so that more enterprises profit. Third, improve the digital human resources of SMEs. External guidance needs to be understood and implemented by relevant personnel in the enterprise to be more effective. Therefore, sme employees should be encouraged to receive training. Online comprehensive service platform can set up digital transformation training courses, from common problems, expert advice, special cases, as well as specific knowledge, technology and services, provide a variety of types of learning materials and online questions, reduce SMEs' fear of digital transformation.

4.2 We will foster a business environment friendly to SMEs

First, we will continue to reduce burdens and improve the business environment. We will continue to streamline administration and delegate power, and move business management online. Continue to promote the "only run once" experience, reduce the administrative burden of SMEs. At the same time, we will set up special channels for small and medium-sized enterprises to put forward opinions and suggestions. After collecting and sorting, we will focus on solving prominent and key problems and accelerate the improvement of the business environment for small and medium-sized enterprises. At the same time, in the transport and sales links of small and medium-sized enterprises, logistics costs are reduced, and unreasonable and non-compliant charges for inter-provincial operation are eliminated. Second, we will guide large enterprises and institutions to increase their purchases of

small and medium-sized enterprises. It is necessary to make full use of digital and big data advantages to reduce the procedures for SMEs to prove their qualifications and improve their access to the procurement market. For the purchaser, in terms of reducing credit risk, the credit audit platform data can be used to evaluate the credit level of SMEs and reduce credit risk in the procurement process. In terms of verifying enterprises' capabilities, reliable third-party platforms, including e-commerce platforms and banks, can provide rating reports based on SMEs' trading volume, counterparty evaluation and capital flow, so as to reduce buyers' concerns about SMEs' insufficient ability to perform contracts. Third, improve the fairness of online business platform. Referring to the practice of the European Union, e-commerce enterprises and platforms can be urged to shorten the delay time of payment at present, and reduce the pressure of capital flow of SMEs. At the same time, a quick mediation mechanism should be set up to improve the efficiency of solving problems when there are financial conflicts between buyers and sellers on the platform or small and medium-sized enterprises and the platform. In the current situation of more mature cross-border e-commerce, e-commerce platforms should timely sort out and report trade barriers encountered by small and medium-sized enterprises and problems caused by cheating of their interests by foreign traders. The management departments should timely take trade remedy measures and consult with the locations of overseas institutions on related issues.

4.3 Reduce investment risks and innovate financing forms

At present, in order to deal with the financing difficulties of small and medium-sized enterprises, The State Council has issued relevant opinions and regulations, and the People's Bank of China has also published standardized Bill Management Measures. Compared with the eu's proposed solution, some new facilitation financing practices may be developed in the future. First, explore new guarantee models to reduce the risk of investment in small and medium-sized enterprises. Small and medium-sized enterprises have weak ability to resist risks. Even if they have a good credit level, poor management and external changes may bring investors risks. The EU has tried to use public funds to share risks with the private sector. China's governmental financing guarantee agencies can further strengthen the guarantee function, make full use of the information means to analyse the operation of enterprises and development prospects, improve the level of risk control, reduce the rate of guarantee service charge, in order to attract private investment in high quality, high growth of small and medium-sized enterprise to the risk of investment, increase the diversification of funding sources. Second, give full play to the strengths of fintech to open up new financing methods for SMEs. The EU is using blockchain to enhance communication between investors and SMEs. In China, for qualified small and medium-sized enterprises, an online corporate bond financing platform can be constructed based on payment platform information to attract online communication between small and medium-sized enterprises and investors and improve the investment convenience for small and medium-sized enterprises. This way reduces credit risk, convenient investment cooperation, better security, lower transaction costs, more suitable for small investment in small and medium-sized enterprises.

References

- [1] Coad A, Segarra-Blasco A, Teruel M. A bit of basic, a bit of applied? R&D strategies and firm performance[J]. *The Journal of Technology Transfer*, 2020.
- [2] Yeon J-I, Lee J-D, Baek C. A tale of two technological capabilities: economic growth revisited from a technological capability transition perspective[J]. *The Journal of Technology Transfer*, 2021, 46(3): 574–605.
- [3] Wang X, Sun J, Tian L. Correction to: Environmental dynamism and cooperative innovation: the moderating role of state ownership and institutional development[J]. *The Journal of Technology Transfer*, 2020.
- [4] Goethner M. Cross-faculty proximity and academic entrepreneurship: the role of business schools[J].: 47.

- [5] Blank T H, Carmeli A. Does founding team composition influence external investment? The role of founding team prior experience and founder CEO[J]. *The Journal of Technology Transfer*, 2020.
- [6] Panetti E, Parmentola A, Ferretti M. Exploring the relational dimension in a smart innovation ecosystem: a comprehensive framework to define the network structure and the network portfolio[J]. *The Journal of Technology Transfer*, 2020, 45(6): 1775–1796.
- [7] Azagra-Caro J M, González-Salmerón L, Marques P. Fiction lagging behind or non-fiction defending the indefensible? University–industry (et al.) interaction in science fiction[J]. *The Journal of Technology Transfer*, 2020.
- [8] van Weele M A, van Rijnsoever F J, Groen M. Gimme shelter? Heterogeneous preferences for tangible and intangible resources when choosing an incubator[J]. *The Journal of Technology Transfer*, 2020, 45(4): 984–1015.
- [9] Han J. Identifying the effects of technology transfer policy using a quantile regression: the case of South Korea[J]. *The Journal of Technology Transfer*, 2020, 45(6): 1690–1717.
- [10] Nepelski D, Van Roy V. Innovation and innovator assessment in R&I ecosystems: the case of the EU Framework Programme[J]. *The Journal of Technology Transfer*, 2021, 46(3): 792–827.
- [11] Antonelli C. Knowledge exhaustibility public support to business R&D and the additionality constraint[J]. *The Journal of Technology Transfer*, 2020, 45(3): 649–663.
- [12] De Fuentes C, Santiago F, Temel S. Perception of innovation barriers by successful and unsuccessful innovators in emerging economies[J]. *The Journal of Technology Transfer*, 2020, 45(4): 1283–1307.