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Research on Upgrading and Building of Public Technology Service Platform for SMES in Jiangsu Province under the Background of “Internet +”

(Full Paper)

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ABSTRACT

With the full popularization and rapid development of Internet technology, Jiangsu small and medium-sized enterprises are facing great opportunities and challenges. The public technical service platform for small and medium enterprises can effectively respond to the needs of small and medium-sized enterprises and strive for necessary government resources when conducting corporate guidance. At the same time, for government agencies, relying on the platform's appeal and social relations is conducive to the effective publicity and promotion of government policies, so upgrading the public technology service platform for SMEs is the key to connect the government and enterprises. This paper breaks through the description of traditional technology service platform confined to geographic space, extends the technology service function to the Internet area, and introduces the “Internet +” concept and platform agglomeration theory to the upgrading and construction of public technology service platform of Jiangsu small and medium-sized enterprises.

Keywords: Small and medium enterprises, public technology service platform, platform agglomeration.

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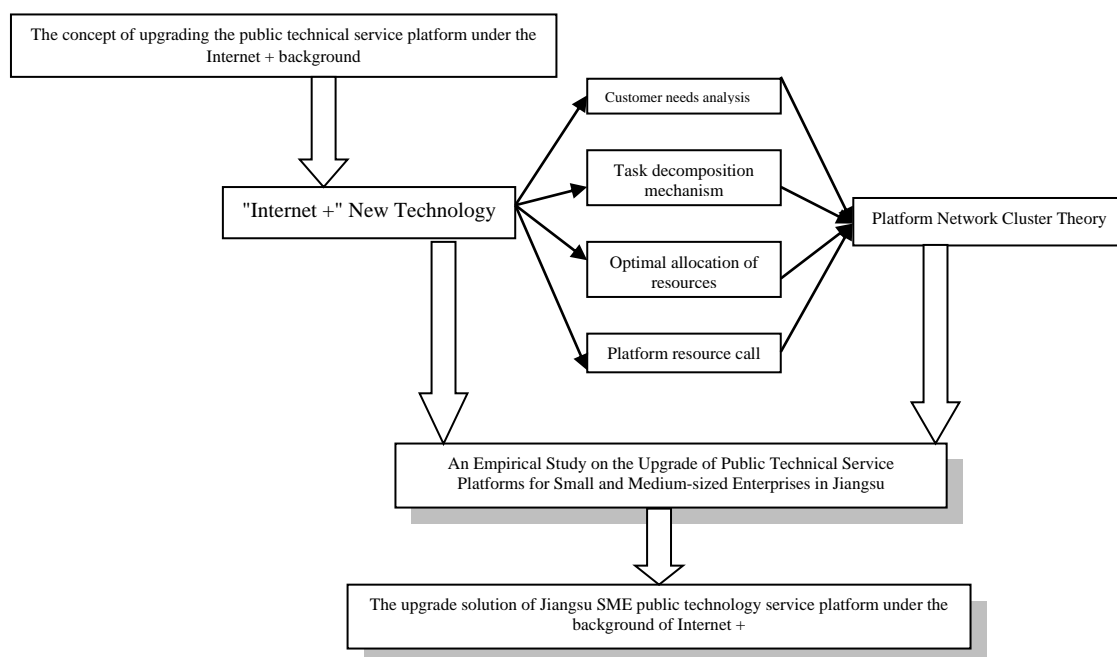
INTRODUCTION

With the acceleration of technological progress and industrial upgrading, the survival and competitive environment of small and medium-sized enterprises has undergone fundamental changes. Promoting technological progress of small and medium-sized enterprises has become the key to enhancing the core competitiveness of small and medium-sized enterprises. The needs of small and medium-sized enterprises have built a huge market. In the face of this market, domestic and foreign products and service providers have launched software and hardware products for small and medium-sized enterprises in various aspects such as product design and development, production process, operation management, inspection, and testing. At the same time, through policy guidance and financial support, local governments have guided and built a series of public technical service platforms that serve the links of the enterprise value chain.

During our research on the Jiangsu public technical service platform, we found that the technical services provided by the current single professional technical service platform still have a certain gap with the growing needs of small and medium-sized enterprises, which limits the functions of the public technical service platform. It is unable to effectively connect the upstream and downstream industrial chains of SMEs, which also limits the scope of SMEs seeking business opportunities. Therefore, we break through the description of traditional technology service platform in the geographical space, extend the technology service function to the Internet area, and introduce the “Internet +” concept into the construction of public technology service platform Design. This paper proposes the upgrading of Jiangsu public technology service platform under the background of “Internet +”. It is the construction of the “Internet +” Jiangsu public technical service platform to create a new platform development ecology in a new field, so that the platform can reshape the structure and find a lasting development path. This is also an important measure to implement Jiangsu's innovation-driven strategy, enhance the competitiveness of Jiangsu's small and medium-sized enterprises and accelerate regional industrial upgrading

RESEARCH PATH

Based on theoretical research, we use the Jiangsu Province SME Information Promotion Project as a practical opportunity, relying on the public technical service platform for SMEs, and conduct practical exploration of platform clusters. Figure 1 shows the detailed research path of upgrading the public technology service platform for SMEs. The upgrading construction of the public technical service platform for small and medium-sized enterprises in Jiangsu includes three aspects: First, determine the concept of upgrading the public technical service platform under the Internet + background. Second, once a small and medium-sized enterprise puts forward a demand, the resource manager of the platform cluster will decompose the task, and select, match, and schedule the superior resources of each professional technical service platform in the entire cluster to provide services for customers. Integrate "Internet +" technology throughout the process to improve platform service efficiency (Cenamor, Parida & Wincent, 2019). Third, make use of the Internet area space to implement the upgrade and construction of a public technical service platform for small and medium enterprises in Jiangsu Province.



Source: This study.

Figure 1: research framework for upgrading public technology service platform of SMEs in Jiangsu under “Internet +” background

LITERATURE REVIEW

Research on Cluster

Marshall, a British classicist, put the concept of industrial zone forward. He called the specific area formed by many relevant specialized small and medium-sized enterprises in space as industrial zone. In 1978, Italian sociologist Bucatini believed that the new industrial zone is a social and regional production complex formed by people and enterprises with common social background in a certain natural region. Porter put forward the concept of "industrial cluster" in the economics of cluster and new competition, that is, the agglomeration of companies and institutions related to each other in a specific field on the geographical location.

The definition of industrial cluster by domestic scholars is similar in essence. Industrial cluster refers to the concentration of enterprises in the same industry, related industries and supporting industries in the geographical location. The cluster is composed of a group of small and medium-sized enterprises, which are independent of each other but have a specific relationship with each other. The cooperation-based interaction among enterprises within a group can produce external economy, which includes the formation of transaction relationship and mutual behavior adjustment among enterprises. The industrial cluster, as an intermediate institutional organization, is an enterprise network organization between the market and the customer level. Industrial cluster has the characteristics of systematisms and enterprise network (Dong, & Chen, 2008).

Based on the above theory, in the research process of public technology service platform for small and medium-sized enterprises, we found that the technical services provided by a single professional technical service platform could not connect the upstream and downstream industrial chain, which also limits the scope of small and medium-sized enterprises to seek business opportunities. Currently, the exchange and cooperation between professional technical service platforms is particularly important (Liu, & Tang, 2005). Therefore, we break through the description of industrial cluster theory limited to geographical space, expand the theory to the Internet regional space, and define the platform in economics. This paper puts forward the concept of "platform cluster". Through the study of public technology service platform clusters for small and medium-sized enterprises in Jiangsu Province, the establishment of public technology service platform clusters for small and medium-sized enterprises, so that platform services can achieve the effect of "1+1>2", help small and medium-sized enterprises to maximize corporate value and improve their competitiveness.

Research on the connotation of platform

At present, the research on platform is still in its infancy in China. In the manufacturing industry, it is considered that the platform is set up for the convenience of operation in the process of production and construction. In the IT industry, the platform is the operating environment of computer hardware or software. In the field of policy, in 2010, the Ministry of industry and information technology, the development and Reform Commission and other seven departments jointly issued the guiding opinions on promoting the construction of public technology service platform for small and medium-sized enterprises. According to the principle of openness and resource sharing, the service platform provides regional and industrial SMEs with

information inquiry, technological innovation, quality inspection, regulations and standards, management consultation and entrepreneurship assistance. Legal entity providing services such as guidance, market development, personnel training, equipment sharing, etc. According to the administrative measures of Jiangsu Province on public technology service platform for science and technology, the public technology service platform for science and technology is characterized by foundation, openness, and public welfare, which provides science and technology resources sharing services, public technology services, innovation, and entrepreneurship services to the society. Platform is essentially a trading space or place, which facilitates the transaction between two or more customers, and gains profits by charging appropriate fees.

Many scholars have discussed the concept of public technology service platform. It is generally focused on industrial parks and industrial agglomeration areas with certain industrial advantages. (Song *et al.*, 2013). It is characterized by professional technical services, and is a scientific and technological service institution with the mission of solving common technical problems that are necessary for the development of small and medium-sized enterprises and cannot be completed independently. It is a supporting system for providing technical services for industrial development. At the same time, some scholars have conducted research on the function of the platform, and believe that the function of the platform can be divided into three aspects. One is as a carrier for gathering scientific and technological elements, and the other is that it can unite multiple entities, such as universities, enterprises, and research institutes. Cooperation produces more innovative results; the third is to meet the needs of many enterprises (Yin *et al.*, 2011). The platform provides professional public services by gathering scientific and technological elements such as capital, technology, and talents, laying a solid technological foundation for industrial development and vigorously promoting industrial innovation.

Through preliminary research, we believe that the platform in the field of science and technology industry economy has the following characteristics: basic and shared, service, information technology, knowledge reuse and innovation, and value creation. In summary, the platform is an environmental entity that integrates industry knowledge accumulation and solutions, and is deployed by software and hardware such as computers, communications, networks, and other related intelligent technologies (Chai, Xiao, & Liu, 2018).

Research on platform cluster

Cluster is a concept widely used in spatial economics, location economics and geographical economics. Clusters usually represent the concentration of enterprises, and this concentration can produce synergy. A group of geographically close interconnected companies and related institutions, which are located in a specific industrial field, are linked by commonness or complementarity (Zhuang, & Chen, 2019).

Due to the limitation of capital, personnel, technology and other production factors, many small and medium-sized enterprises face technical problems in product R&D and design, production and manufacturing process, marketing and promotion, and operation management. SMEs are dependent on public technical service platforms much bigger than larger enterprises. The single public technology service platform is unable to solve the various problems faced by many small and medium-sized enterprises. Therefore, it is necessary for the public technology service platform to cluster the platforms in accordance with the requirements of the industrial chain or enterprise value chain to form a corresponding industrial chain or enterprise value chain. The public technical service chain to promote enterprises to carry out technological innovation in all links of the industrial chain, especially the value chain.

In recent years, the Internet has become an important technology carrier in the information age. It has resource advantages in specific fields and provides professional services to users with its own established resources. From the perspective of application scope, the unlimited nature of the Internet space can effectively support more and more users, and can respond quickly to users' different resource requirements, Application requirements and service quality requirements. From the perspective of application depth, the Internet is an information resource and the collection of resource sharing can satisfy users and efficiently provide a networked service system supporting product lifecycle management and dynamic alliances (Shen *et al.*, 2003).

According to Article 3 of the administrative measures of Jiangsu Province on public technology service platform for science and technology, the public technology service platform can be divided into network public technology service platform with multi units participating in the co construction or having multiple function sub platforms according to the composition mode. We can see that the network public technology service platform, as an important part of the construction plan of Jiangsu Province science and technology infrastructure, has on the agenda. In view of this, we propose the platform cluster research of public technology service based on Internet. In the network environment, all kinds of service platforms are combined to form a virtual organization of association and coupling. Many distributed resources are integrated through the joint and cooperation between platforms. An integrated resource environment is formed by taking the public technology service chain as the path to respond to the changing needs of users. The cluster is used to integrate the advantageous resources of each platform, which is small and medium-sized the development of enterprises provides powerful help.

ANALYSIS ON THE DEVELOPMENT AND OPERATION

Development of public technology service platform

Based on policy guidance, financial support and enterprise self-construction, the public technology service platform for small and medium-sized enterprises in the whole province has continuously enhanced its service function, improved its service mechanism, improved its service quality, and optimized its service layout, and made great achievements in its development.

(1) The province's public service network is formed. All 13 provincial cities and 49 counties (county-level cities) in the province have established service centers for SMEs. The coverage rate of SME service centers in cities and counties has reached 100%. With service centers for small and medium-sized enterprises at all levels as the leader, it integrates more than 2,000 intermediary service agencies and social organizations to provide a full range of services for small and medium-sized enterprises. The province has formed a small and medium-sized enterprise service network that is connected from top to bottom and linked at all levels

(2) Star service platforms are constantly emerging. At present, 7 public technology service platforms have won the national demonstration public technology service platforms, ranking first in China. Since 2010, the provincial star public technology service platform has been recognized. So far, there are 7 five-star public technology service platforms, 38 four-star public technology service platforms, 145 three-star public technology service platforms, and 80 one or two-star public technology service platforms. A multi-level, wide coverage and multi-functional public technology service platform network for small and medium-sized enterprises has been established, at the same time, it improves the innovation ability and product quality of small and medium-sized enterprises

Existing service base

At present, it has achieved initial results in the eight key service areas.

Entrepreneurship counseling

In recent years, Jiangsu province has focused on cultivating small business entrepreneurship bases, creating a public technical service platform for entrepreneurship counseling, and providing affordable entrepreneurial venues and thoughtful entrepreneurial services for the establishment and development of small and medium-sized enterprises in the province. At present, 280 provincial-level key cultivating small enterprise entrepreneurship bases. With the entrepreneurial base as the main carrier, a series of entrepreneurial counseling services have been launched.

(1) Launched the "Entrepreneurship Jiangsu" series of activities with the theme of "Entering the campus, entering the park, entering the countryside, entering the community";

(2) Launched the entrepreneurial base-experts "121 plan", organized entrepreneurial counseling experts to focus on cultivation in the province Small business entrepreneurship bases in China circulate to implement corporate diagnosis and counseling services;

(3) Implement the "annual scale cultivation project for thousands of micro-enterprises", establish an online management system for micro-enterprises cultivation, entrepreneurial QQ group and 400-0809-360 entrepreneurial consulting hotline to help micro-enterprises grow Conduct online tracking and consulting services;

(4) Hold private (small) and medium-sized business owner's management seminars to build a learning and communication platform for business owners to improve their capabilities and seek common development;

(5) Establish a team of entrepreneurial counseling experts to provide counseling for entrepreneurs and personnel Service;

(6) Compile "Entrepreneurship Guidance Manual" and distribute it to the public free.

Technical support

Relying on the characteristic industry cluster area, industrial park, and small enterprise start-up base, we will establish and cultivate a number of public technology service platforms for small and medium-sized enterprises. From a high starting point, we will build three provincial platforms for domestic technology transfer, international technology transfer and intellectual property trading of small and medium-sized enterprises in Jiangsu province. Up to now, more than 1/3 of 100 provincial key industrial clusters have established public technology service platforms, and more than 100 provincial key cultivation platforms and provincial demonstration platforms have been established.

Financing guarantee

One is to build a credit guarantee platform. By the end of 2018, there were 853 financing guarantee institutions in the financing guarantee industry of Jiangsu province, with the guaranteed balance of more than 280 billion yuan and serving more than 100000 enterprises. The business level and service quality of financing guarantee institutions have improved steadily, which has played an important role in alleviating the financing difficulties of small and medium-sized enterprises and promoting the healthy development of small and medium-sized enterprises. The second is to build a platform for bank enterprise cooperation. We have signed cooperation agreements to support the development of small and medium-sized enterprises with several financial institutions in the province, cooperated in the financing and cultivation of "ten thousand enterprises and hundreds of billion" small and medium-sized enterprises, and jointly held various kinds of small and medium-sized enterprises; financial products and services recommendation exhibition. The third is to build a financing service platform. We will open a financing service network for small and medium-sized enterprises in the whole province, provide a series of services such as online acceptance, reasonable docking, follow-up, and coordination, build a convenient bridge for enterprise financing, and build an online financing service platform. We will set up a pilot "financing supermarket", and cooperate with banks, guarantees and other relevant service institutions to provide comprehensive financing services to help small and medium-sized enterprises solve their financing problems. Fourth, broaden financing channels. We should strengthen the classified guidance of listed

reserve enterprises, organize intermediary agencies and experts to analyze and evaluate, scientifically arrange, and practically speed up the listing process of reserve enterprises. We will actively promote the issuance of pooled bonds, pooled short-term financing bonds and collective trust plans for SMEs, and help them to raise funds through multiple channels.

Personnel training

The province focuses on improving the management level, innovation ability and entrepreneurial ability of small and medium-sized enterprises. Relying on various educational resources, various forms of training such as degrees, academic qualifications, research and training, forums, and special lectures are carried out to improve the quality of small and medium-sized enterprises' talents. The enterprise cultivates a team of high-quality talents, establishes a training network covering the whole province that is supported and guided by the government, undertaken by local training institutions, actively assisted by colleges and universities, and actively participated by many small and medium-sized enterprises. Organize "Going Abroad and Outbound High-end Training Classes, EMBA Master Degree Classes, EMBA Successor Training Classes, MBA Classes, Leadership Improvement Classes for Outstanding Women, SME Main Management Training Classes, Experiential Training, Directors Advanced Classes, Competitiveness Lecture hall, "Ten Thousand Enterprises Upgrade" corporate president training class, investment and financing and capital operation advanced seminar, college student village official entrepreneurship training and other "top ten" types of training. Two corporate university platforms have been created. During the 13th Five-Year Plan period, it has grown to 10 and actively promoted the construction of internal training institutions for key enterprises.

Market development

Actively build domestic and international cooperation and exchange platforms to create opportunities and conditions for SMEs in the province to "go out" and "bring in" to carry out economic and trade cooperation and exchanges. Make full use of various exhibitions, expositions, trade fairs and other platforms to actively organize enterprises to participate in the China International SME Expo, Qingdao APEC Technology Exhibition and Exchange Conference, Hong Kong's "SME International "Market Promotion Day" Expo, "China International Small and Medium-sized Enterprises Fair and Equipment Industry Supporting Fair, Jiangsu Wuxi Private Enterprise High-tech Fair, guide and support the small and medium-sized enterprises in Jiangsu province to explore domestic and foreign markets.

Management consulting

Jiangsu province adheres to the principle of socialized and market-oriented management consulting services, guides social institutions to carry out public welfare management consulting services, and cultivates several management consulting service institutions with strong service ability and high service level. From time to time, organize management, finance, science, and technology experts to enter enterprises, and provide diagnosis, consultation and guidance on development strategy, organizational structure design, financial analysis, credit management, production management and other aspects for the development of small and medium-sized enterprises. Give full play to the advantages of colleges and universities and scientific research institutes, and provide diagnosis and consultation on management, market, technology, finance, and taxation according to the needs of small and medium-sized enterprises.

Information support

Focusing on the construction of three-level small and medium-sized enterprise network, we should establish and improve an open and convenient information service network for small and medium-sized enterprises. At the same time, relying on the network service platform, we will carry out e-government, e-commerce, market information release, online consultation, and other services. We will implement the project for small and medium-sized enterprises to guide them to carry out enterprise informatization construction. (Zhao, Wang, & Sun, 2004) "Jiangsu small and medium-sized enterprises e-commerce zone" was opened to display e-commerce cases of small and medium-sized enterprises.

Legal aid

The "96885" legal service hotline for small and medium-sized enterprises has been established and opened, integrating more than 100 law firms and more than 1000 professional lawyers from all over the province to provide 24-hour free legal consultation services for small and medium-sized enterprises in the whole province.

DEMAND ANALYSIS

Enterprise demand promotes platform upgrade and development

The public technical service platform for small and medium enterprises in Jiangsu Province is dominated by a single service platform. They focus on their core competitiveness and their services continue to develop in the direction of specialization. An interconnected network has not been established between platforms, and, collaborative services and resource sharing have not been realized, and it is difficult to form an overall social benefit. Each platform operates independently, the investment in human and financial resources is relatively scattered, and the scale and level are average. Although the platform has services, it is not easy for companies to find it, and it is difficult to form a service brand and gather platform popularity.

At present, public technology service platforms are mainly service centers for small and medium-sized enterprises at all levels. Most of them undertake part of the government's affairs. The administrative color is strong, and the ability to drive social service resources and sustainable development is insufficient. The core role needs to be strengthened, the individualized and

characteristic services provided by enterprises are insufficient, and the services are not well targeted.

Upgrading and development of policy incentive platform

In January 2017, the Ministry of Science and Technology issued the "Thirteenth Five-Year Special Plan for the Technological Development of the Indian Discovery Service Industry". On September 22, 2017, the Ministry of Industry and Information Technology announced the "Thirteenth Five-Year Plan for the Growth of SMEs". During the 13th Five-Year Plan period, the Chinese government will implement the network construction project of public technology service platforms for small and medium enterprises, support the construction and improvement of 4000 public service demonstration platforms for small and medium enterprises, and focus on cultivating 500 national public service demonstration platforms for small and medium enterprises, to promote various Social service agencies provide services for SMEs.

According to statistics from Jiangsu Economic and Information Technology Commission, as of February 2018, there were 109 public technology service platforms of various kinds in Nanjing, and 72 demonstration technology platforms and key cultivation technology platforms recognized by Jiangsu Province. The 72 provincial key technology platforms provide more than 100000 special technical services such as comprehensive technical services, inspection and testing every year, and more than 100000 enterprises have benefited. Technology service platform is the key to promote the transfer of manufacturing industry to the high end of industrial chain, to improve the benefit of products, and effectively drive the transformation and upgrading of manufacturing industry.

Jiangsu Province has formulated the "Jiangsu Province Science and technology public technology service platform management measures", the "Jiangsu Province National Economic and social development 13th five year plan outline" takes "promoting the construction of public technology support platform for small and medium-sized enterprises, establishing and improving technology transfer and transaction platform" as the strategic focus of innovation driven implementation in the 13th five year plan. To this end, the "three wings" of "Jiangsu Province" and "five wings" of "Jiangsu Province" have been put forward the service platform construction plan defines direction of upgrading and development for platform, and provides policy guarantee for platform upgrading and development. Jiangsu Province is facing unprecedented development opportunities for platform upgrading.

UPGRADING CONSTRUCTION MODEL

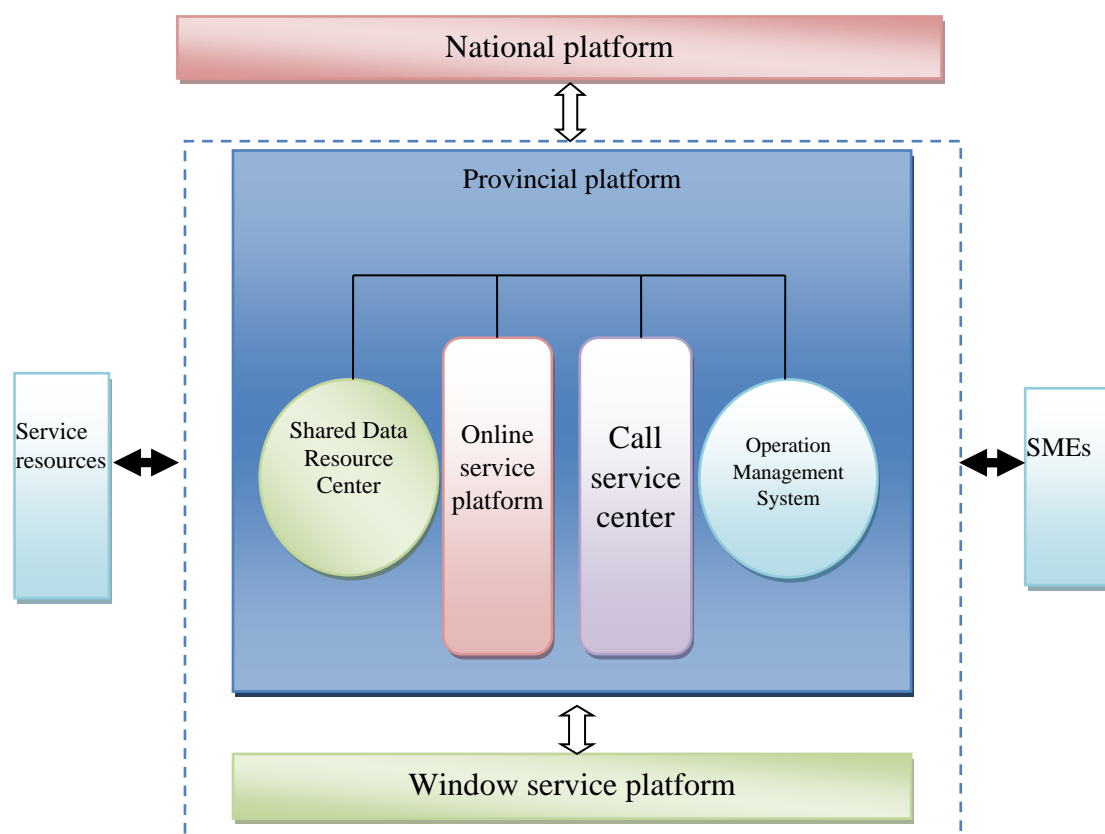
Construction objectives

In accordance with the basic idea of "integration, sharing, coordination, and improvement", with the policy of "government support platform construction, platform serving small and medium enterprises", focusing on resource integration, resource sharing as the core, and solving the service needs of small and medium enterprises as the main purpose. To build a small and medium-sized Jiangsu province with the provincial service platform as the hub and the window service platform of the provincial municipalities and industrial clusters in the province as the node. Information flow, resource sharing, service coordination, complete functions, wide coverage, convenient use, and continuous improvement of service efficiency the enterprise public technology service platform network has become the backbone of the province's SME service system.

Specific objectives: after the construction of the platform network, China Unicom will share no less than 2000 service resources and provide no less than 300 professional service functions. It will serve at least 150000 small and medium-sized enterprises every year, accept more than 100000 online and call services, and organize at least 300 service-docking activities every year the satisfaction rate of small enterprises is no less than 93%.

Overall structure

Jiangsu Province small and medium-sized enterprises public technology service platform network takes the provincial platform as the center, takes the window service as the support, coordinates the provinces advantageous service resources, realizes the interconnection and data resource sharing of the provincial service resources, and provides fast, high-quality, efficient, and sustainable services for small and medium-sized enterprises shown in figure 2. At the same time, the public technology service platform network reserves the data interface with the national small and medium-sized enterprise public technology service platform and other provincial platforms, to realize the high sharing of information resources with the national platform.



Source: This study.

Figure 2: The overall structure of the upgrade of the public technology service platform for small and medium-sized enterprises in Jiangsu

Jiangsu Province small and medium-sized enterprises public technology service platform agglomeration

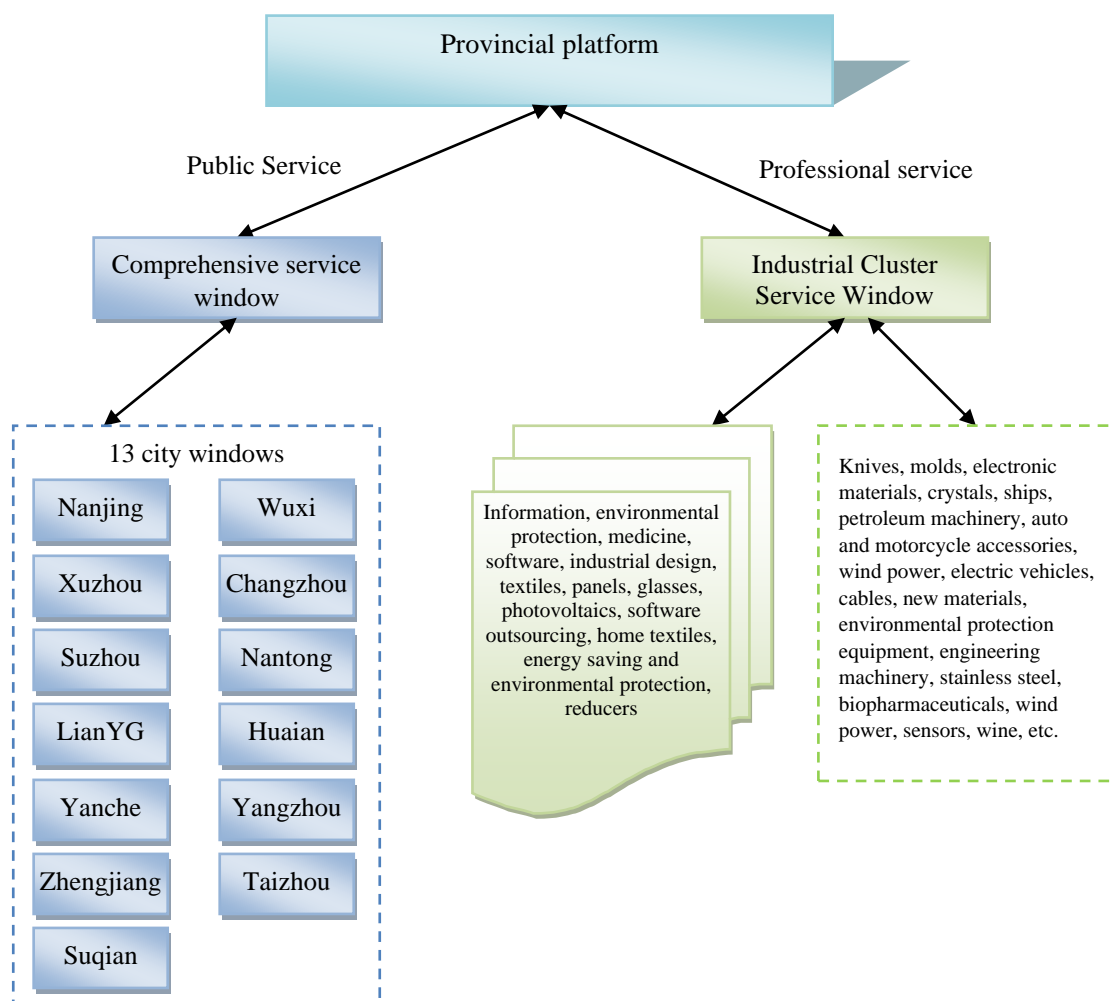
Provincial platform

The provincial platform consists of "shared data resource center", "operation management system", "call service center" and "online service platform". Sharing data resource center realizes the unified storage and management of network service data resources of the provincial service platform, as well as the exchange and sharing of information resources of small and medium-sized enterprises in the whole province. Operation management system is the basic support platform for realizing the unified operation, hierarchical management, sharing use, efficient operation, and service coordination of public technology service platform of small and medium-sized enterprises in the province. Call service center use modern advanced communication network technology, computer technology and Internet technology to build a call service center with strong comprehensiveness, high stability, and good expansibility, and accept business consultation 24 hours a day. Online service platform consists of "application service center" and "public service portal". To provide one-stop network services and mobile terminal information services for small and medium-sized enterprises in Jiangsu Province, such as "e-government", "e-commerce", "financing guarantee", "video training", "technological innovation", "competitive intelligence", "consultation interaction", "recruitment and employment", "SaaS application", etc.

Window platform

13 provincial municipal windows and 50 provincial key industry cluster windows will be established in the province. First, based on regional considerations, a comprehensive service window platform with "SME Service Center" as the leader will be realized in the first batch of Unicom windows. Secondly, the small and medium-sized industrial enterprises above designated size in the province are mainly distributed in eight major industries, including machinery, light industry, petrochemical, textile, metallurgy, electronics, building materials, and medicine. From the analysis of the proportion of sales revenue, machinery accounted for 29.8% and light industry accounted for 13.5%, Petrochemical accounted for 14.6%, textiles accounted for 11.2%, metallurgy accounted for 9.9%, electronics accounted for 8.06%, building materials accounted for 4.9%, and pharmaceuticals accounted for 2.12%. In recent years, there have been some new changes in the industrial distribution of small and medium-sized enterprises. The traditional industries such as machinery, light industry, and textiles have gradually expanded to electronic information, equipment manufacturing, emerging industries, and modern service industries. Many small and medium-sized enterprises seized development opportunities and quickly occupied emerging markets. Based on professional considerations, 50 professional service window platforms that conform to the province's regional and industrial planning and layout have been established in the province's key industrial clusters. The first batch of locations: information, software, environmental protection, panels, photovoltaics, medicine, textiles, industrial design, 13 industrial clusters including energy conservation and environmental protection, glasses, home textiles, software outsourcing, and reducers; in the next two years: cutting tools, molds, electronic materials, crystals, ships, petroleum machinery, auto and motorcycle accessories, wind power, electric vehicles,

cables, new materials , Environmental protection equipment, engineering machinery, stainless steel, biopharmaceuticals, wind power, sensors, winemaking and other industrial clusters. As shown in figure 3.



Source: This study.

Figure 3: Cluster planning diagram of public technology service platform for small and medium enterprises in Jiangsu Province

Platform upgrade and construction tasks

Establish a unified service brand

The whole service platform network is a complete organism, with a unified identification, unified management and support system, a unified service search, registration, and identity verification entrance, forming a unified service brand with consistent goals, services, and resources. First, based on Jiangsu small and medium-sized enterprise information network, the service portal and function are transformed to meet the requirements of service platform network. Secondly, the floating window with unified logo, web page style and function is applied to the website of each window service platform and the service resource website of service platform network integration. The floating window has the functions of "service search", "user login", "and supply and demand information release". Through the floating window, users can share data to the whole network platform can also enter the unified interface of provincial platform. The unified floating window is not only an important way for users to contact the service platform network, but also an effective way to publicize the service platform network.

Establish a set of automatic resource matching system

Realize the automatic service navigation in the online service, and truly achieve the "one touch service". One of the core functions of the whole service platform network is to facilitate the effective docking between service demanders and service providers. The public technology service platform network of Jiangsu Province will fully study the demand and supply of services, and realize the fully automatic, accurate and effective service information matching function (Chen, Wang, & Sun, 2011).It will provide screened and processed retrieval results for the users of small and medium-sized enterprises who need to find service institutions and the institutions that need to find service objects, so as to realize the intelligent matching between service supply and demand It can greatly improve the efficiency of service docking, establish the good practicability of service platform network, and bring great convenience to users.

Establish a set of perfect operation management system

The operation and management of the whole service platform network involves the construction unit, provincial platform, window platform, social service resources and many other aspects. It is necessary to study and formulate a series of work

processes, services or work agreements, quality management indicators, evaluation and assessment standards, data standards, technical standards, as well as corresponding expert groups, archives, inspection, and supervision institutions, etc. Sustainable operation of the system. (Chai *et al.*, 2018). These systems can guide, regulate, and restrict the activities of all levels of window service platforms, all kinds of small and medium-sized enterprise service institutions, cooperation units and so on, so as to ensure that the whole service platform network can smoothly achieve the goals of resource coordination, functional complementarity, information sharing and service collaboration. Through the scientific and perfect system construction, the system with Jiangsu characteristics, covering various service management functions, concise and effective, and strong enforceability is finally formed.

Establish a set of unified data specification

The construction and operation of the whole service platform network not only needs to complete the development and integration of many software and hardware functional modules, but also needs to ensure the stable and smooth communication of information. This requires great determination and energy in the research, discussion, and establishment of data specifications. Only when scientific and efficient standards are set up in this aspect, the unified linkage and resource integration of the whole service desk network will have a solid foundation. This work will include the establishment of data collection standards, data conversion standards, data sharing and exchange protocols, data retrieval, data mining and analysis, data modification and release, etc. (Chen, & Sun, 2011). Based on extensive investigation of the existing data platform, we will listen to the opinions of the construction unit, cooperation unit, window platform and advisory expert group to conduct scientific design and review.

Establish a stable and efficient technology platform

The service platform network takes the operation management system and shared data resource center as the core. Through the provincial platform, window platform, call center, mobile platform and other service portals, the service platform network can seamlessly link with many small and medium-sized enterprises, service institutions, government departments and other users. Through the core technologies such as cloud storage, database middleware, web application, SaaS application, 3G Application, etc., it serves the whole system the platform network provides stable and efficient data interconnection services, resource call response, service scheduling guidance, network technical support, etc. (de Reuver, Sørensen & Basole, 2018). on the one hand, it ensures that the data structure transformation of each window platform conforms to the specification of interconnection, on the other hand, it reduces the excessive investment in network technology and software development of each window platform, which saves investment, promotes service, and adapts to the platform the role of network expansion requirements.

Establish several window platforms with perfect functions and reasonable layout

First, scientific planning and reasonable layout should be carried out for the window service platform in Jiangsu province. The distribution of window platform should not only consider the geographical location of southern, central and Northern Jiangsu, but also consider the key industries, key industries, and emerging industries of Jiangsu province. At the same time, we should standardize and guide the construction units that are ready to be absorbed into the window, unify management and collaborative services, (Liu & Yan, 2008).and complete the layout of window platform in Jiangsu province as soon as possible.

CONCLUSION

This article introduces the concept of "Internet +" and the theory of platform clusters into the field of public technology service platforms, and upgrades the construction of public technology service platforms for small and medium enterprises in Jiangsu, and builds a cluster of public technology service platforms for small and medium enterprises in Jiangsu under the background of "Internet +". Platform development ecology. The upgraded platform cluster integrates idle resources and superior resources of network public technical services, connects the upstream and downstream industrial chains, expands the scope of SMEs to find business opportunities, and quickly responds to complex and changeable resource needs and application requirements of SMEs. The upgraded platform cluster can meet the development needs of SMEs in many aspects such as financing channels, product design, research and development, manufacturing, marketing, and promotion. The research of this paper extends the technical service function to the Internet field, breaks through the limitations of the traditional technical service platform, and provides an effective way for the sustainable development of the public technical service platform of Jiangsu SMEs.

ACKNOWLEDGMENT

This work was financially supported by research project of Jiangsu Provincial Department of Education University Philosophy and social science 2017: Research on the upgrading of public technology service platform for small and medium-sized enterprises in Jiangsu Province under the background of "Internet +" era (2017SJB0402), China.

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