Research on the Development of Service Outsourcing Industry based on the Perspective of Resource Type City Transformation

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Abstract

In the new era, the world economic environment and national conditions have changed deeply, and industrialization, informatization, urbanization, marketization and internationalization model have been deeply developing for a long time. After the financial crisis, the global economic situation is a major adjustment. The gradual loss of China's economic factors, the pressure of population, resources and environment are becoming more obvious, therefore transformation of the mode of economic development has become the theme of this era. In the trend of world economic development and the environment, looking for the transformation model which is in line with the process of regional development, getting rid of simple imitation, opening up new paths can make it possible to realize the characteristic and difference in the tide of the transformation of the new period, and to form a new growth pole and a new competitive power. Resource type cities which are under the background of economic globalization and the adjustment of the world industrial structure, and in the process of the establishment of a modern industrial system using carrier of the information revolution, seeking in the industrial chain advantage module production, will make it possible to break the resource curse.

Keywords: Type City Transformation, Service Outsourcing, General Model, Literature Review

1. INTRODUCTION

Resource based cities is due to minerals, forests and other natural resources exploration, development and the establishment and the rise of the city, is dependent on natural resource endowment advantage, to resource extraction and processing as the pillar and leading industry of regional. Currently there are 118 resource-based cities, accounting for 662 of the total number of cities in the country (including county-level cities) of 18%, the total population of. The whole city is facing the decentralization of urban layout, single industry structure, economic structure degeneration adaptability is poor, the employment structure is not balanced and many other issues. This city because of resource, promote because of resources, social and economic resources allocation and utilization of mostly focus on the exploitation of natural resources industry chain expansion. It’s outstanding for regional industrial system, investment system, trade system, the financial system, and even urban system construction around the absolute advantage of resources for industrial expansion. However, the economy based on the resource based economy is facing the trend of reducing natural resources and the depletion of natural resources. The sustainable development of resource based cities has become a worldwide problem. In fact, the proposition itself is contradictory: natural resources are the advantages of regional economic development, but why has become the main reason for the decline of the resources of the city?

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The theory of "resource curse" demonstrates the enrichment of natural resources by the empirical analysis, which limits the growth of the economy. From 1960 to 1990, resource poor countries, per capita income growth of 2-3 times faster than the resource abundant countries, since the seventies of the 20th century the growth rate between the gap is obvious (auty studied, 2001). Shao Shuai et al. (2008) using inter provincial panel data from 1991 to 2006 econometric test and Analysis on the correlation between economic development and energy development in the western region, the obtained energy development mainly through its of science and technology innovation and human capital investment crowding out effect, and nourishing students rent-seeking and corruption caused by the political system is weakening effect indirect pathway to hinder economic growth. Based on the realistic problem of resource type city, a large number of domestic and foreign scholars have launched the research on the theme of sustainable development and economic transformation. Malcolm Bradbury, Hite, Barnes, is foreign to the resource type city economic structure conversion, the structure of the labor force adjustment and integration of the world economy in resource-based cities, influence of Representatives. They put forward the establishment of the early warning system of resource type city, the development of financial aid, the regional planning, and promote the diversification of regional economic basis, such as the transformation mechanism. Luohao (2007) the neoclassical Solow model is proved theoretically, two paths through natural resources industrial transfer and technological progress implementation region economy growth. Li Xingwang (2009) argues that resource-based enterprises has become the main driving force for the economic development of the western region, western resource type and high growth enterprises have clear strategic resources, to the advantage of natural resources to rely on, through the interaction of industrial clusters grow together, improve allocation of resources and ability to integrate. A large number of researches have been carried out in many directions on the transformation of resource-based cities based on the resource based urban life cycle, the sustainable development of cities, the evolution of industrial structure and the theory of circular economy.

2. The path of resource based city transformation and the theory of service outsourcing

There are three kinds of development orientation of China's economic transformation of resource based cities: one is the extension of the industry. Based on the development of resources, the development of downstream processing industry, the establishment of the depth of the processing and utilization of resources. Mining industry belongs to the intermediate input type basic industry, its industry association is characterized by the forward association effect, and then the effect is small. Industrial extension mode using the forward to extend the industrial chain, the utility model has the advantages of is strong correlation can give full play to the advantage of local resources and at the same time, the downstream industry chain in terms of production, technology, management, products, and so on in the early stages of the transition, the transition to implement less difficult. With the continuous development and expansion of the downstream industries, resources city industrial system of competition ability and the ability of self-development will gradually increase future even local resource depletion can also be from the external input resources for processing and maintaining long-term prosperity of the city or area. Two is the industry update path. Using resource development by the accumulation of capital, technology and talent, or with the help of external forces, establish basic does not depend on the original resources of new industry group, the original engaged in resource development shifted to emerging industry. Industry update mode is undoubtedly the most thorough industrial transformation model. It gets rid of the dependence of existing resources, but
how in the excavation industry on the basis of the leading industrial, the development of competitive alternative to industry group is the biggest challenge facing the path. Three is the industrial complex path. Some resource based cities are not confined to the single path in the economic transformation, but the composite of these two paths. Usually in the transformation of the initial use of the industrial extension of the path, the city's leading industries gradually transformed into the processing industry. With the development of the processing industry, the function of the city is gradually improved, the emerging industry is developing, and the city is gradually evolving into a comprehensive city. Based on the current status of resources, geographic conditions, technical strength and investment environment, through cultivating and developing new alternative industries, adjusting the industrial structure, and gradually form a new pattern of multi industry support, by a single resource advantage to multi-functional economic advantage to change, resource allocation and strategic restructuring.

Resource based urban development services outsourcing to promote the transformation of resource industries, and then realize the development of urban transformation of the above third ways. Outsourcing is the core business of the enterprise will be the core business of the development of its own focus on the development of the core business, the essence of a resource integration management model. From the micro level enterprises, with the refinement of social division of labor, external competitive pressures, enterprises will with nature of the services business subcontract to external professional departments, to improve competitiveness and achieve economies of scale. The outsourcing activities of enterprises are the driving force for the development of service outsourcing industry, and the maturity of the service outsourcing industry is directly related to the quality of service products. Therefore, the development of service outsourcing industry can establish in the original professional departments advantage based on standardization, through the development of internal demand, the birth with the formation of core competitiveness of outsourcing products and enterprises, the growth path is industrial extension and industry updates the growth path. In resource based cities with the advantages of the specialized sector to produce service outsourcing projects, service product transaction model innovation and operation of practice, for the industrial restructuring and economic transformation to provide a realistic path.

North (1955) proposed the basic theory of output in the paper of "regional theory and regional economic growth". The theory holds that the economic growth of a region is determined primarily by the output of the region. The expansion of external demand, will drive the development of regional export industries and service industry, regional output base has been strengthened, as this will cause the regional economy grow exponentially, and specific area can successfully establish output based industry, according to an industry that has comparative advantage. The economic contribution ratio of natural resources with the development time progressive, is inevitable trend. If the core elements of the resource type city only to natural resources as a city driven, then inevitably faced with recession doomed fate. Therefore, we must rely on the accumulation of economic, social and institutional resources, depth mining economic contribution rate increase factor as a regional economic growth of the main driving force, then knowledge resources and the related innovation and human capital became the key to the development of. In the information and network technology, the human capital allocation a fundamental change in the allocation of resources, the formation of human capital certainly historical inheritance and market innovation, but also makes the labor mobility and spatial configuration of the extended greatly enhanced (Jiang Xiaojuan, 2008). The production service outsourcing industry is based on the specialized knowledge of the specific industry, which is difficult to imitate, cost decreasing, increasing income, and the characteristics of
the external economy. Such a regional output department established on the basis of the original superiority industry, inherited the accumulation of social resources, easy to develop into the high growth sectors, and service outsourcing industry has become an important way to the transformation of resource-based cities. Development in mining engineering technology service products, city resources for the brand characteristics of the service outsourcing base, the output of natural resources development model, into social resources such as knowledge, culture, technology, information, organization form, management means mainly the output mode. So, service outsourcing industry choice accords with the regional leading industry development direction, to improve the core competitiveness of the regional brand enterprises to upgrade the regional industrial structure, the formation of a new economic growth point; and service outsourcing industry of the network structure and network effects, to deepen the professional level, extend the roundabout production level, improve the enterprise system, promote the perfection of the transaction and the hierarchical structure of urban functional structure.

(1) Theory of service outsourcing from the perspective of productive service industry

In order to develop more efficient new organization, or create a new product part of the attributes of the original product, you can split and combination of the attributes of the original product, and the service attributes of the product is more easy to segment. The division of product service attributes provides a possibility to achieve product upgrading and structural adjustment. From the "smile curve" can be found, the first and the second industry in each industry can be decomposed into two parts: the production and service, production and service is the first and the second industry of service outsourcing industry, the third industry is divided into production services, consumer services and public service industry, the three parts are belong to the service industry are service outsourcing business. Because the first industrial production of the service industry, the second industry production service industry of the tertiary industry production service industry has the same properties, so they should become the object of business process and knowledge process outsourcing. It is due to the intra product specialization has outsourced production, the service trade (service) produced service outsourcing, and service link delamination and service product separability, gave birth to the global service outsourcing is the producer services as the main line, manufacturing, mining industry and other fields to penetrate. In this way, the service outsourcing has broken through the narrow sense of information technology outsourcing (ITO) business domain, and it has expanded into the business process (BPO) and the knowledge process outsourcing (KPO) industry as the first and the two or three industry.
Table 1. Subdivision industry of BPO.

<table>
<thead>
<tr>
<th>Classification criteria</th>
<th>Horizontal functional business process</th>
<th>Vertical service in a specific industry</th>
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</thead>
<tbody>
<tr>
<td>Industry name</td>
<td></td>
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<tr>
<td>Business process</td>
<td>Data acquisition and processing, call</td>
<td>Finance, telecommunications, high</td>
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<td>outsourcing segments</td>
<td>center, human resources, financial</td>
<td>technology, retail, media, health</td>
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<td>accounting, logistics, procurement,</td>
<td>care, air transport, petroleum and</td>
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<td>redundant disaster backup, customer</td>
<td>natural gas and chemical industry,</td>
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<td>interaction and support, sales and</td>
<td>public utility</td>
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<td>marketing, administrative services, etc.</td>
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Table 2. Subdivision industry of KPO.

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<tr>
<th>Classification criteria</th>
<th>Manufacturing design research and development</th>
<th>Software design and development</th>
<th>Creative industry</th>
<th>Knowledge service</th>
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<tbody>
<tr>
<td>Industry name</td>
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<tr>
<td>Knowledge process</td>
<td>Patent research and development, product</td>
<td>New product development,</td>
<td>Film and television</td>
<td>Business research,</td>
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<tr>
<td>outsourcing industry</td>
<td>design, sample test, prototype research,</td>
<td>system testing, localization,</td>
<td>program production,</td>
<td>market research,</td>
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<td>segments</td>
<td>built in system, engineering solution,</td>
<td>product maintenance, product</td>
<td>animation production,</td>
<td>securities analysis,</td>
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<td>process design, etc.</td>
<td>support, etc.</td>
<td>game design and</td>
<td>legal services,</td>
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<td>development,</td>
<td>intellectual</td>
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<td>mobile games,</td>
<td>property services,</td>
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<td>game consoles</td>
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<td>Internet of things</td>
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<td>services, etc.</td>
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(2) The theory of service outsourcing based on the perspective of industrial structure optimization and upgrading

Service outsourcing industry structure optimization and upgrade is mainly reflected in: one is space industry continues to increase, the development and integration of the three industries, strong pull the formation of modern industrial system; second, the service outsourcing is from low-end to high-end industrial added value increases continuously. With the development of information technology and network technology, many companies will not only input data, file management and other low-end service outsourcing, but also will risk management, data analysis, science and
technology research and development, technical services, production management and other technical content and high added value business outsourcing, formation of the knowledge service outsourcing. KPO is transformed from BPO and a new types of business, but the potential is huge and wide market, under the background of global industry division of labor, will gradually become the and ITO, BPO were neck and neck, and is expected to be a major mode of transcendence. At present, although the global offshore business process outsourcing market is small, but the steady rise in the pace of development. The resource-based cities in China should play the advantage of management and engineering technology, to avoid duplication with other cities in the country engaged in low-end IT business, attention to the knowledge content and added value is higher, the service outsourcing industry, the focus of planning the development of KPO and BPO industry.

(3) Evolution path in the practice of outsourcing activities

Phase 1: Outsourcing begins in manufacturing. In 1950s, the international division of labor presented a new feature, among which the most attention is the intra product specialization. Due to time restrictions on the development of technology and economy, the only tangible products in order to achieve separation of production parts, links, multinational companies in order to reduce the cost, in order to achieve external production in the world, the outsourcing of manufacturing industry; the second stage: outsourcing from manufacturing steering service industry. In 1980s, the rapid development of information and communication technology makes it possible for the service to be produced at a certain location, and in other locations, the service becomes available. According to the comparative advantage and competitiveness in away from the parent company other locations to achieve international distribution, the service outsourcing the production of products and services; the third stage: outsourcing by the service sector return manufacturing industry, mining industry. At present, due to the presence of the separability of manufacturing, mining and other industries in processing and services, outsourcing is the producer services as the main line, to the field of manufacturing, mining industry and other penetration, resulting in a high-end business service outsourcing, manufacturing, mining and other products within the division of knowledge process outsourcing.

![Figure 1. Evolution path of outsourcing activities.](image-url)
mode of economic development. Therefore, the service outsourcing has become the sustainable development of resource based cities, which has important theoretical and practical significance to the sustainable development of resource-based cities and even the entire national economy.

3. The mechanism of service outsourcing industry to promote the transformation of resource based cities

The drive of economic globalization and market competition intensifies, revolution of information technology popularization in the field of business, expanding production range of modular products and services, it services and software production, information technology outsourcing has become a huge scale of global production networks and the city field system. At the same time, with one or more IT intensive production process, entrusted to the external enterprise management and control of the business process outsourcing is accompanied by. Among them, it is not easy to cross industry replication, highly vertical knowledge intensive knowledge process outsourcing business, obviously has the characteristics of high value added, become the country's service outsourcing providers compete for the field. In the face of the great change of the world pattern of international trade, to meet the wave of a new round of technological revolution history, the new logo "service outsourcing" the globalization and international industrial transfer through the emerging mainstream way, to further enhance the industry's competitiveness, change the mode of economic development, in order to achieve the successful transformation of resource-based cities.

(1) The exhaustion of mineral resources and the increasing returns of service outsourcing resources

The irreversible nature of the gradual depletion of mineral resources is the fundamental reason for the economic stagnation of a large number of resource type cities. China's industrialization process is gradually advancing, accelerate the consumption of mineral resources, shorten the cycle of resources. At present our country's main resource type city has already entered the stable period and the declining period of resource type industry, resource exhausted city has become a major issue of China's economic development. In the discussion on the transformation of resource-based cities, it is necessary to re interpretation of the connotation of "resources". Development of modern resources industry was not simple to establish in material resources based on the industry, but natural resources, social resources and economic resources integration, industry interaction between enterprises in innovation, urban functions gradually diversified modern industrial system. The resource type city pillar industry in terms of human capital, management and technology resources, in domestic and foreign markets, to undertake resource exploration and development, process management and technical service and outsourcing, development of resources industry production of knowledge process outsourcing industry, the service outsourcing modernization pattern of resource allocation to the professional industry resources areas of infiltration. Producer service outsourcing industry is knowledge dependent resource allocation model, information and network technology to traditional industry value chain transformation, formed to information, and specialized knowledge module of the carrier, instant delivery of high increase in value of the service products implemented through it technology. The application of IT technology can break through the geographical restrictions on the delivery of products and services, domain expertise and technical elements increased investment to change the dependence on natural resources, rely on the spread of a particular industry or sector innovation, realize the benefits of knowledge information resources is incremental.
(2) Resource city binary economic structure and service outsourcing modern industrial system establishment

Resource based cities have a typical economic structure of binary, because of the monopoly profits brought by the natural resources management right, a large number of scarce production factors flow into the mining area. In the great industry under the effect of polarization and economic elements by curing in the field of industry resources, and supporting the development of resource exploration, technical inputs, production services, human resources development and training, to help the industry system, resources, transportation, resources and trade has been rapid development, forming a rigid inside the resource type industry of circular economy and the advantages of resources to further produced "amplification effect" (Zhang Fuming, 2002). And non-resource type economy generally low input, low output, low efficiency of the economic effect, due to insufficient development, weak competitiveness, leading industry support and bad relevance. In the production area of the circuitous degree low, resource industries and the formation of distinct binary structure. Knowledge process outsourcing industry is a product of the integration of modern service industry and other industries in the process of the development of modern industrial system. Modern industrial system is under the background of economic globalization, the innovation network, openness, agglomeration, innovation and integration features, to high-tech, high added value, strong capability of independent innovation of the organic industry group as the core, information technology application and innovation network diffusion pathway of industrial aggregation. Information and network technology to agriculture, industry and service industry modular embedded, the modern service industry value chain extends continuously, including the whole process from market research to the after-sales service, until the product scrap recycling, the degree of value-added continues to deepen. With the extension of the application of information technology, the integration of traditional industries and service outsourcing industry has become more and more extensive. Therefore, the establishment of modern industrial system needs to have an international service platform to achieve the interactive development of traditional industries and services, service outsourcing industry came into being. The service outsourcing industry can break through the limitation of the region's non flowing resources and realize the scale economy under the support of the domestic and foreign markets. Between the industry's internal mutual fusion, the inter industry boundaries become blurred, a particular industry or sector of technological innovation in the dissemination and diffusion drives the formation of the regional modern industrial system, improve the overall competitiveness of the region.

(3) Vulnerability, volatility and the stability of the self-organizing ability of service outsourcing industry

Resource oriented economy is characterized by a single and low level of industrial structure, because it is the upstream industry, affected by the economic cycle, the volatility of resource prices is larger, production is often irregular fluctuation. With cyclical fluctuations in the region and the dominant resource industries closely related to the industrial system, there is also a violent shock. At the same time, the resources industry is a typical external economy industry, resource type city development and construction and environmental pollution, ecological destruction is accompanied, become the resource type city region carrying the fragility of the important reasons. Therefore, the economic model of low carbon and sustainable development has become the best way to find a resource based city. Service outsourcing under the joint action of science and technology revolution and economic globalization, through investment and business contracting global economic
distribution realized, to avoid the single market volatility on economic shocks. International division of labor by the inter industry division of labor to the industry and the extension of the division of labor elements, showing a division of labor within the industry, the division of labor within the industry, product division of labor and the coexistence of elements of the new model. The refinement of specialization makes economic system mode of production and through the, enterprise organization to further improve, enterprise group, increased production department, technical structure change, the upgrading of the industrial structure, the process is the regional (Yang Xiaokai process of self strengthening organizational capacity, 1999). With the extension of industrial chain, the growing number of downstream enterprises and supporting service enterprises, a lot with the production and business operation associated with the service outsourcing enterprises in a certain space aggregation brought about the specialization of production, low transportation cost, low transaction costs, convenient communication and supporting services provided will be formed industrial agglomeration. Agglomeration economic effect makes the resource industry value chain more competitive advantage, and the whole city economy is also the driving force for development. In the formation and function of urban system, resource based cities will present a stable development trend of regional growth pole, point axis diffusion period and network coordination period.

4. Conclusion
Resource-based cities, especially resource-exhausted cities economic transformation is a worldwide problem, involving national resources, economic, ecological environment and social security, how to realize the sustainable development of resource-based cities, is a problem to be solved by the Chinese government. Information and network technology to the traditional industry value chain reconstruction, forming a hard copy of the service module, the intangible products through the application of IT technology, break through the limit of region and material resources into global production network. Engineering technology service outsourcing industry is the mining industry is highly knowledge intensive industry fusion, in the international division of labor system formed high value-added, the sustainable development of the core of social economic resources, successfully replaced the resource type city of mining resource rigidity dependent. More important is, service outsourcing business model extended the circuitous degree of traditional industrial value chain, the effect through the expansion of structure of network of division of labor to cultivate large enterprise groups, and with the enterprise cluster and industry cluster, improve transaction and the layered structure of the urban function, true to form regional economic system that has self-organization ability and the function of polarization, and ultimately to achieve the transformation of resource-based cities.

Reference


