

# The Evaluation Index System Construction for Innovative Development of Beijing's High-End Service

Liyan Liu<sup>1,2</sup>, Lei Zhao<sup>1</sup>, Yan Han<sup>1,2\*</sup>

<sup>1</sup>School of Economics and Management, Beijing Institute of Petro-Chemical Technology, Beijing, China

<sup>2</sup>Beijing Modern Industrial Development Research Center, Beijing, China

Email: \*hanyan@bipt.edu.cn

**How to cite this paper:** Liu, L. Y., Zhao, L., & Han, Y. (2023). The Evaluation Index System Construction for Innovative Development of Beijing's High-End Service. *American Journal of Industrial and Business Management*, 13, 1242-1255. <https://doi.org/10.4236/ajibm.2023.1311068>

**Received:** September 6, 2023

**Accepted:** November 19, 2023

**Published:** November 22, 2023

Copyright © 2023 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

## Abstract

Innovation capability is the core priority of the development of high-end service industry. Under the background of the globalization of the service economy, the static evaluation index system constructed based on the traditional manufacturing innovation capability evaluation paradigm can no longer meet the management practice of innovation ability evaluation in the high-tech service industry. This paper comprehensively uses literature research, front-line interviews, expert demonstrations and other research methods to construct a set of evaluation index systems that reflect the diversity of innovation forms, the inseparability of development and transmission, the diversity of development organizations, and the importance of business models of high-end service enterprises, so as to provide theoretical support for the evaluation of the development of high-end service industry in Beijing.

## Keywords

High-End Service Industry, Innovation and Development, Evaluation Index System, Beijing

## 1. Introduction

The development level of the service industry is an important indicator to measure the quality of a region's economic development, and the development of the high-end service industry is the inevitable result of the development of the service economy to a certain stage. Beijing's economic development has long entered the era of service economy, and leading the development of Beijing's ser-

\*Corresponding author.

vice industry with the innovative development of high-end service industry has become an inevitable requirement for the further development of Beijing's service industry.

Following the Reply of the State Council on Comprehensively Promoting the Comprehensive Pilot Work Plan for the Expansion and Opening of Beijing's Service Industry in 2019, in 2021, Beijing promoted the construction of the "National Comprehensive Demonstration Zone for the Expansion and Opening of the Service Industry" and "China (Beijing) Pilot Free Trade Zone" (hereinafter referred to as the "two zones") with high standards, highlighting the characteristics of scientific and technological innovation and digital economy, marking that Beijing's economic development has officially entered a new period of high-end service economic development.

In the new era, Beijing is characterized by the innovative development of high-end service industries, boosted by the construction of "two districts" and the development of digital economy. How to integrate the construction of Beijing's "two districts" and the development of the digital economy, improve the level of innovation and development of Beijing's high-end service industry in the new era, and then drive the overall high-end, internationalization and scientific and technological innovation development of Beijing's service industry, lead the coordinated development of the Beijing-Tianjin-Hebei service industry and play a demonstration and driving role nationwide, has important theoretical value and practical significance. The research focuses on the construction of an evaluation index system for the innovation and development of Beijing's high-end service industry, which will enrich the theoretical foundation of high-end service study in the new era, and provide a systematic framework for the evaluation of high-end service development in metropolitan cities.

## 2. Literature Review and Question Asking

The concept of domestic high-end service industry first originated in the Shenzhen Municipal Government document in 2007, and scholars have defined the connotation of high-end service industry from the perspective of technology, knowledge, capital intensity and added value of service products (Du, 2007), from the perspective of high intelligence, high efficiency, high capital, high income and high fashion characteristics of service products (Wang et al., 2008), from the perspective of high-end service elements, high-end demand, technology intensity and industrial driving effect (Chen et al., 2011), and from the perspectives of the background, industrial attributes and industrial characteristics of the times (Zhou, 2012). It also refers to the European Service Classification System to classify high-end service industries (Shen & Zhou, 2015). There is no concept of high-end service industry abroad, like the knowledge-intensive service industry (KIBS, Knowledge Intensive Business Service). The early definition of knowledge-intensive service industry highlights the professional knowledge and information intensity in service products (Miles et al., 1995), as well as the intelli-

gence and quality level of service providers (Alvesson & Kärreman, 2001), and later focuses on the technology, human capital density and added value of service products (OECD, 2001), and the recent definition emphasizes the connotation of innovation, pointing out that knowledge-intensive service industries transfer knowledge and skills through service products and participate in knowledge re-creation (Muller & Doloreux, 2009).

Regarding the innovative development of high-end service industry: First, from the perspective of the development level and measurement of the service industry, the current research mainly focuses on the high-quality development of the service industry and the development of the modern service industry. The research on high-quality development mainly focuses on the connotation characteristics (Shi et al., 2019), influencing factors, etc. (Liu, 2018; Chen & Liu, 2018), and the construction of high-quality development measurement index system is mainly based on economic factors, market factors, infrastructure, and innovation-driven aspects (Nie & Jian, 2020; Wei & Li, 2018); The research on the development level of modern service industry is mainly based on the development level assessment and measurement of the input-output method (Tian, 2018), or the development scale, development structure and economic benefits are used as evaluation indicators of development quality to measure the development level of modern service industry (Wu, 2020). Second, from the perspective of the opening of the service industry, the construction of the free trade zone and the impact of the development of the digital economy on the service industry, the current research mainly focuses on the macro-level research of the opening policy of the service industry, the free trade zone policy, and the impact of the development of the digital economy on the service industry. In terms of opening up the service industry: the opening up of the service industry is conducive to promoting the development quality of the service industry and improving its international competitiveness (Lai & Chen, 2017); The opening up of the service industry can bring service products with higher technology content and better quality, promote the innovation of domestic enterprises, improve the productivity of the service industry (Li & Xie, 2018; Chen & Zhang, 2017), and then promote the upgrading of industrial structure (Yao, 2019).

For the research on the evaluation of innovation ability in high-end service industry, it is related to the important management practice topic of how service enterprises cultivate innovation ability (Wang, 2006), and the early evaluation method basically follows the evaluation system of manufacturing technology innovation ability, focusing on hardware technology (Wang et al., 2009), test conditions, invention patents, etc. (Li & Xia, 2011; Li et al., 2009; Gallouj & Weinstein, 1997). However, these indicators based on the traditional paradigm are not suitable for the characteristics of service innovation such as intangibility, inseparability, non-storage, and separation of use rights and ownership (Cowell, 1988; Hertog et al., 2010). Especially in the context of globalization, service innovation capability is no longer a solidified concept, and the knowledge of the service in-

dustry comes more from the cross-border search and integration mechanism (Ark et al., 2003; Argote, 2011), which makes the innovation ability unable to be effectively measured, and then makes the high-tech service industry unable to share existing policy opportunities and guide industrial development and upgrading (Gallouj, 2002; Miles, 2005). Therefore, according to the characteristics of the development of China's high-tech service industry at this stage, based on the paradigm of the innovation characteristics of the service industry, a complete evaluation index system and its operation mode must be constructed.

At present, the research on service innovation capability is mainly based on four perspectives: 1) Input-output perspective, which mainly considers the input of innovation resources and the output level of innovation performance, but fails to solve the black box of the process of enterprise service innovation capability. 2) From the perspective of capability integration, it focuses on the examination of service product development capabilities, but relatively ignores the importance of the market to the realization of service product value. 3) The perspective of knowledge base (Waalkens et al., 2008; De Vries, 2006), which explains the ability to serve innovation in terms of the creation, acquisition and effective use of knowledge resources, but the intangibility of knowledge makes this perspective difficult to operationalize. 4) From the perspective of the innovation process (Lee & Xon, 1996; Wei et al., 2008), examining the ability from the perspective of the whole process is conducive to portraying the characteristics of service innovation ability is different from the technological innovation ability, but there are great differences in the innovation process of different service industries. Based on the focus on technology, management, market, organization and other factors in innovation capability research (Leonard-Barton, 1992; Tidd & Bessant, 2011; Deng & Wang, 2007), and the attention to customer interaction, service delivery, dynamic capabilities and other factors in service industry innovation research (Buckley et al., 1992; Hertog & Bilderbeek, 1999; Ko & Lu, 2010; Hogan et al., 2011).

The existing research has achieved relatively rich research results, but in general, there are still certain limitations: 1) the current index system is mostly national research, and there are few specific studies on Beijing; 2) The research mainly focuses on the overall service industry or the modern service industry, and there is no targeted research on the high-end service industry, and the measurement of innovation is relatively lacking; 3) There is a gap between theoretical research and actual demand, and the existing results are not strong in guiding the innovation and development of Beijing's high-end service industry. In order to break through the above bottlenecks, this research project will mainly focus on the construction of an evaluation index system for the innovation and development of Beijing's high-end service industry.

### 3. Selection of Alternative Indicators

#### 3.1. Principles for the Selection of Alternative Indicators

The selection of indicators directly determines the authenticity of evaluation re-

sults and the effectiveness of subsequent countermeasures. In order to ensure the accuracy of the index selection results, the following index selection principles should be followed when constructing the evaluation index system for the innovation and development of the high-end service industry:

First, scientific principles. Scientific attitude and scientific theory are the prerequisites for the scientific nature of indicators. The evaluation index system for the high-quality development of the high-end service industry is guided by the scientific and localized new development concept, and is based on the existing economic theory and the relevant laws of the development of the service industry.

Secondly, the systematic principle: the systematic principle is also called the holistic principle, and the high-quality development of the high-end service industry should be regarded as a system engineering in the study. We should take the high-quality development goal of the high-end service industry as the core, carry out a comprehensive investigation in multiple dimensions and levels, pay attention to the connection between indicators, but also pay attention to the differences between indicators, and ensure the integrity and balance of the evaluation system while coordinating the interrelationship between various dimensions.

Third, the principle of operability: The principle of operability requires full consideration of the availability of data and the realizability of calculations for each indicator. The purpose of the indicator system is to provide decision-making analysis tools for governments and other institutions. Therefore, the availability and universality of indicator data is also extremely important. The measurement of high-end service industry has always been a problem, due to the different statistical caliber, not all indicators can be obtained and quantified, so it should be combined with the actual situation, select indicators with large amount of information, simple accounting, and strong generalization, and decisively abandon indicators with weak operability.

Fourth, the principle of innovation: high-end service industry is a dynamic concept, and its connotation is constantly enriched with the development of the economy. Therefore, when selecting indicators, appropriate innovation should be made from the aspects of timeliness and dynamics, and the high-quality development of high-end service industry should be taken as the fundamental starting point and foothold, to enhance the representativeness and pertinence of indicators and ensure the reliability of indicators.

### **3.2. Characteristics of High-End Service Industry**

Based on alternative indicators, breakthroughs are needed to be made on the deficiencies of existing research. Therefore, this study identifies the innovative characteristics of high-end service enterprises to improve the content validity of the evaluation index system.

First, there are many forms of service innovation. The innovation of high-end service industry mainly includes the following four forms: service concept innovation (new service categories, new service concepts, new service content), cus-

customer interaction channel innovation (new ways and channels for communication and cooperation with customers), service delivery system innovation (the whole process of delivering services to customers, establishing and applying new systems), and technology concept innovation (using new technologies in the process of service development, production and delivery). Many companies can also combine more than two types of innovation to form new or significantly changing services (Yu & Xia, 2010).

Secondly, service development is inseparable from the service production and delivery process. The innovative development of services is integrated into the whole process of service design, production, and delivery, making it difficult to separate service development activities from the overall service activities of enterprises (Chen et al., 2011). Similarly, when considering the factors of service developers and service development funding, it is impossible to simply divide them by department as if they were evaluating manufacturing companies.

Third, the organizational form of service development is diverse. Service development organizations can take many forms, including: Establish a dedicated service development organization, supported by laboratories or R&D departments; There is no dedicated service development agency, and service development activities run through the organization's activities; Establish a management organization for service development, coordinate internal and external service development activities; Relying on external forces, establish a network system for service development (Zhou, 2012). The diversity of service development organizational forms further reflects the inseparability of service development, production, and delivery processes.

Fourth, the business model of high-end service enterprises is extremely important. The business model of high-end service enterprises is the key to the success of new service development and whether enterprise capabilities can achieve breakthrough development. Different business models, innovation management models of enterprises, and the way of establishing innovation institutions form interaction and matching, thus becoming a key part of service innovation (Shen & Zhou, 2015). The service business model is related to whether the value of service innovation can be transmitted and obtained, and simply considering the novelty of the service itself, while ignoring the key value creation in innovation, cannot fully portray the innovation ability of enterprises (Xu & Liu, 2019).

The above characteristics show that using solidified indicators to measure the innovation ability of enterprises in the process of high-end service development is contrary to the diversified nature of service innovation.

### 3.3. Acquisition of Alternative Indicators

In order to obtain the alternative indicators of the evaluation index system, this study sorted out and referred to a large number of relevant studies at home and abroad in the process of literature review, including literature on technological

innovation capability evaluation (Yu & Xia, 2010; Chen et al., 2011; Zhou, 2012), literature related to innovation evaluation in the service industry (Wang et al., 2009; Li et al., 2009; Wei et al., 2008), research related to service R&D measurement (Chen et al., 2011), research related to regional innovation capacity evaluation (Hertog & Bilderbeek, 1999; Shen & Zhou, 2015; Xu & Liu, 2019), and documents related to innovation capacity evaluation in China (such as “China Innovative Enterprise Evaluation Project Plan”, “High-tech Enterprise Identification and Management Measures”), etc.

Based on the three categories of innovation input, innovation process and innovation output, this study obtains 28 alternative indicators for the evaluation system of innovation capability of high-end service industry.

In this study, a total of 8 scholars in service-related fields, experts from competent government departments and middle and senior managers in high-tech service enterprises were invited to form an expert group to score the 28 alternative indicators shown in **Table 1** and judge their content validity. Experts judged each indicator to be “effectively recommended for retention” or “not recommended for retention”. Based on the evaluation, the experts also put forward opinions or suggestions on the retention and modification of each indicator, and finally brainstormed the findings of multiple case studies. After expert evaluation, the content validity index of a single indicator is:  $CVR = (Ne - N/2)/(N/2)$ , where  $Ne$  is the recommended judge who should be retained for the evaluated index, and  $N$  is the number of experts. The value of CVR is between -1 and 1, if the value is positive, the metric is retained, if the value is negative, the metric is not retained.

#### 4. Determination of the Index System

Based on literature combing, case studies and expert evaluation, in order to enhance the scientific innovation established by the index system, 15 experts in the high-end service industry, service industry management departments, front-line practitioners of high-end service industry and scientific researchers in the service field have been organized to conduct expert demonstrations. After repeated discussion and demonstration by experts, the index values of objective indicators of the high-tech service industry innovation ability evaluation index system were established, and the index system was finally formed (**Table 2**).

According to the results of the screening indicators, this study selects the scale of innovation development, innovation development structure, innovation development benefit, and innovation development degree as the first-level indicators, and sets up eleven second-level indicators, including innovation input, innovation output, innovative technology structure, innovative talent structure, innovative R&D structure, innovative output value efficiency, innovative performance, innovative technology development, innovative management development, innovative product development, and innovative open development.



**Table 1.** Selection results of candidate indicator experts.

No.	Indicator	Score	Expert opinion	Results
1	Enterprise talent structure	0.75	The absolute value of enterprise employees is not suitable for inclusion in the scoring system	The absolute value indicator is not retained. The proportion of enterprise personnel with bachelor degree or above and the proportion of service developers in the total employees of the enterprise are retained as the specific operation methods of this indicator
2	R&D level	0.90	Measured by practitioner experience	Retain this indicator, named "Service Developer Level". The proportion of personnel with more than 3 years of service development experience is used as the operation mode of this indicator
3	R&D investment	0.12	Proportion of R&D investment used	This indicator is retained
4	R&D investment structure	0.74		This indicator is retained
5	Innovation strategy development	0.58		This indicator is retained
6	Innovative institutional safeguard form	0.62		This metric is retained
7	Innovation Institutional Guarantee	-0.25	Duplication of evaluation content with innovation agency establishment and	This indicator is not retained
8	Number and completion of innovation projects	0.24	The number of projects initiated reflects the innovation orientation of enterprises, but the corresponding content can be reflected in the innovation strategy section; Innovation outputs are more reflective of project completion	This indicator is not retained strategy development
9	Business model for innovative services	0.78	The business model should be comprehensively considered in combination with the service content of the enterprise, the establishment of service organizations and the service innovation strategy	Retain this indicator
10	Innovation Cooperation	0.04		This separate indicator is not retained, and the corresponding content is classified as the relevant indicator of "Innovation Institution Guarantee"
11	Establishment of external R&D institutions	0.32	This separate indicator is not retained, and the corresponding content is classified as the relevant indicator of "innovation institution guarantee"	Partially overlapping with the guarantee of innovation institutions; The establishment of overseas R&D institutions can be used as a bonus
12	Information system creation and application	0.45	Different industries have different requirements for the use of information technology	This indicator is retained
13	Quality management system certification	-0.28	Industry qualification and certification have the same effect as enterprise awards to a certain extent	This indicator is not retained



**Continued**

14	Industry certification	0.27	Industry qualification and certification have the same effect as enterprise awards to a certain extent	This indicator is not retained, and the relevant content is reflected in the index of enterprise awards
15	Number of honorary titles	-0.09	Does not fully reflect the innovation ability of the enterprise	This indicator is not retained
16	Number of awards	1.00	World-class awards should be considered; Provincial, municipal and industry awards can be categorized	Retain this indicator
17	R&D investment structure	0.27		Retain this indicator
18	Proportion of output value of innovation industry	0.12		This indicator is retained
19	Proportion of output value of innovative industries	0.18		Retain this indicator
20	Business revenue from high-tech services	-0.15	The size of enterprises varies widely, and the absolute value of business income is not suitable for inclusion in the scoring system	This indicator is not retained
21	Business Revenue Structure for High-Tech Services	0.82	It is more appropriate to measure the ratio of business revenue to total revenue of innovative services, and the rest of the methods are too complicated	Keep this indicator and use the ratio of business revenue of innovative services to total revenue as the operation mode of this indicator
22	Core Technology Patents	1.00	Different industries have different tendencies towards patents, copyrights, and copyrights	This indicator is retained
23	Copyright and Copyright	1.00	The intellectual property rights of many service enterprises are mainly in the form of copyright and copyright, and patents are relatively few	This indicator is retained, and the total number of patents, copyrights and copyrights is treated as a unified indicator
24	Level of transformation of scientific and technological achievements with independent intellectual property rights	-0.85	The level of transformation of scientific and technological achievements can be reflected in innovation outputs	This indicator is not retained
25	Application degree of digital technologies in services	0.57		This indicator is retained
26	Degree of foreign participation	0.65		This indicator is retained
27	Overseas R&D institutions	0.75		Retain this indicator
28	Imports and exports of services	0.38		This indicator is retained

**Table 2.** Evaluation index system of innovation and development of high-end service industry.

Level 1 indicators	Level 2 indicators	Level 3 indicators
Innovation development scale	Innovation investment	Service development investment
		Service development funding
Innovation development scale	Innovation output	Innovation business revenue
		The number of provincial and municipal certifications and industry certifications The number of industry standards developed by the enterprise
Innovative development structure	Innovative technology structure	Proportion of innovative technology input
		Proportion of innovative technology output
		The extent to which digital technologies are used in services
Innovative development structure	Innovative Talent Structure	Enterprise Talent Structure
		R&D personnel level
Innovative development structure	Innovative R&D structure	Proportion of R&D investment
		R&D investment structure
Innovation and development benefits	innovation output value efficiency	proportion of output value of innovation industry
		The proportion of output value of innovative industries
	Innovation Performance	Business revenue structure for high-tech services
Business scale performance structure for high-tech services		
Degree of innovation and development	Innovative technology development	Patents of core technologies
		Copyright
	Innovation management development	Innovation strategy formulation
		Innovative forms of institutional safeguards
		Information system creation and application
	Innovative product development	Business model for innovative services
		Innovative service development
Innovation, open development	Innovative Service Product Award	Innovative Service Product Award
		Overseas R&D institutions
		Degree of foreign participation
Innovation, open development	Innovation, open development	Import and export services

## 5. Conclusion

Although the academic community has made great progress in the evaluation of service innovation ability, so far, the service industry still does not have a recognized innovation ability evaluation system. The reasons are: First, there are significant differences between various industries in the service industry, such as the importance of technology, the means of patent protection, and the interaction mode of customers between the business service industry and the information service industry; Second, some evaluation indicators are difficult to measure in the service industry, such as the calculation standards applicable to manufac-

turing that do not reflect the investment in service R&D implicit in business processes. Service development is not only solidified in the traditional R&D department or technical department, but throughout the whole process of organizational operation. Since service production and service innovation processes are inseparable, it is difficult to simply separate the input or output of innovative services from the overall input or output of the enterprise, and service developers cannot simply consider the personnel of the technology research and development department. The diversity of innovation content, methods and processes also makes there great differences between different types of high-tech service industries in various aspects such as awards or qualification acquisition, intellectual property protection and so on. Based on this, this study believes that the evaluation of innovation capability of high-tech service industry must first consider the integrity and simplicity of the index system, that is, the index system must fully measure the elements of service innovation ability, and the evaluation indicators must be concise; Secondly, the diversity of service development input and the diversity of service development institutions must be considered; Third, considering the differences between different service industries, the index system needs to fully consider fairness and applicability; Finally, the open context of the development of the service sector is considered.

This study fully considers the completeness and simplicity of the establishment of the high-end service industry innovation and development index system, the diversity of service input and development, the heterogeneity of the service industry and the openness of service development, and constructs the evaluation index system of innovation and development of high-end service industry in Beijing through theoretical combing, literature review, front-line interviews, and expert demonstration. However, due to the inherent difficulties in the evaluation of innovation and development of high-end service industry and the limitations of survey data, the index system proposed in this study can continue to be deepened and improved in the future: First, the index system should be improved in real time. There are not only different industries in the service industry, but also with the rise of emerging industries, new categories and new formats of high-end service industries will continue to emerge, and innovation and development indicators should also be in the process of dynamic change. Therefore, the index system should be dynamically adjusted and updated in real time according to the latest situation of industry development and the specific feedback of evaluation work. Second, average data for the period should be fully applied. Due to the impact of the economic cycle, it is not scientific to use only one year's data as the basis for evaluation, so it should be analyzed based on the development of at least the past three years and based on the indicators of three years, to better reflect the level and trend of development of the airport economic zone. Thirdly, a monitoring system should be established. Future research should pay more attention to how to establish a monitoring system for the evaluation of innovation capacity in high-tech service industries. On the one hand, a

reliable monitoring system guarantees the authenticity of the data obtained. On the other hand, it can strengthen the real-time control of the situation and industry dynamics of high-end service enterprises, and use this as the basis for the formulation of policies and industry standards, to guide the work of high-end service enterprises to improve their innovation capabilities.

### Supporting Project

Research on Innovative Development of High-end Service Industry in Beijing in the New Era (21JJB008).

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

### References

- Alvesson, M., & Kärreman, D. (2001). Odd Couple: Making Sense of the Curious Concept of Knowledge Management. *Journal of Management Studies*, *38*, 995-1018. <https://doi.org/10.1111/1467-6486.00269>
- Argote, L. (2011). Organizational Learning Research: Past, Present and Future. *Management Learning*, *42*, 439-446. <https://doi.org/10.1177/1350507611408217>
- Ark, B. V., Broersma, L., & den Hertog, P. (2003). *Services Innovation, Performance and Policy: A Review, Synthesis Report in the Framework of the Project Structurele Informatievoorziening in Diensten (SIID)*. Strategy, Research & International Co-Operation Department Directorate-General for Innovation.
- Buckley, P. J., Pass, C. L., & Prescott, K. (1992). The Internationalization of Service Firms: A Comparison with the Manufacturing Sector. *Scandinavian International Business Review*, *1*, 39-56. [https://doi.org/10.1016/0962-9262\(92\)90035-5](https://doi.org/10.1016/0962-9262(92)90035-5)
- Chen, Q. F., & Zhang, W. F. (2017). Import Service Trade, Knowledge Spillover and Technological Catch-Up in Latecomer Countries: A Comparative Analysis Based on China and India. *Journal of Shanghai University of Finance and Economics*, *No. 5*, 15-26.
- Chen, X. Y., & Liu, S. (2018). Spatial Transfer of Service Industry and Coordinated Development of Guangdong-Hong Kong-Macao Greater Bay Area: Based on the Perspective of Regional Specialization. *Hong Kong and Macao Research*, *No. 4*, 75-85.
- Chen, Y. Y., Yuan, Y. J., & Yuan, P. (2011). The Connotation, Characteristics and Definition of China's High-End Service Industry. *Journal of Dalian University of Technology: Social Science Edition*, *32*, 20.
- Cowell, D. W. (1988). New Service Development. *Journal of Marketing Management*, *3*, 296-312. <https://doi.org/10.1080/0267257X.1988.9964048>
- De Vries, E. J. (2006). Innovation in Services in Networks of Organizations and in the Distribution of Services. *Research Policy*, *35*, 1037-1051. <https://doi.org/10.1016/j.respol.2006.05.006>
- Deng, P., & Wang, R. (2007). Study on Evaluation System of Innovation Capabilities in Manufacturing Firms. In *International Conference on Management Science and Engineering*.
- Du, R. H. (2007). Strive to Promote the Development of High-End Service Industry.

*Economic Research Reference*, No. 65, 27.

- Gallouj, F. (2002). *Innovation in the Service Economy: The New Wealth of Nations* (pp. 56-63). Edward Elgar Publishing. <https://doi.org/10.4337/9781843765370>
- Gallouj, F., & Weinstein, O. (1997). Innovation in Services. *Research Policy*, 26, 537-556. [https://doi.org/10.1016/S0048-7333\(97\)00030-9](https://doi.org/10.1016/S0048-7333(97)00030-9)
- Hertog, P. D., & Bilderbeek, R. (1999). *Conceptualizing Service Innovation and Service Innovation Patterns*. Thematic Essay within the Framework of the Research Programmed Strategic Information Provision on Innovation and Services (SIID) for the Ministry of Economic Affairs, Directorate for General Technology Policy.
- Hertog, P. D., Van der Aa, W., & de Jong, M. W. (2010). Capabilities for Managing Service Innovation: Towards a Conceptual Framework. *Journal of Service Management*, 21, 490-514. <https://doi.org/10.1108/09564231011066123>
- Hogan, S. J., Soutar, G. N., McColl-Kennedy, J. R., & Sweeney, J. C. (2011). Reconceptualizing Professional Service Firm Innovation Capability: Scale Development. *Industrial Marketing Management*, 40, 1264-1273. <https://doi.org/10.1016/j.indmarman.2011.10.002>
- Ko, H. T., & Lu, H. P. (2010). Measuring Innovation Competencies for Integrated Services in the Communications Industry. *Journal of Service Management*, 21, 162-190. <https://doi.org/10.1108/09564231011039277>
- Lai, Y. W., & Chen, L. N. (2017). To Improve the Development Quality and International Competitiveness of China's Service Industry by Expanding Opening up. *Management World*, No. 5, 17-28.
- Lee, J. S., & Xon, Y. X. (1996). A Customer Service Process Innovation Using the Integration of Data Base and Case Base. *Expert Systems with Applications*, 11, 543-552. [https://doi.org/10.1016/S0957-4174\(96\)00070-X](https://doi.org/10.1016/S0957-4174(96)00070-X)
- Leonard-Barton, D. (1992). Core Capabilities and Core Rigidities: A Paradox in Managing New Product Development. *Strategic Management Journal*, 13, 111-125. <https://doi.org/10.1002/smj.4250131009>
- Li, H. L., & Xie, J. G. (2018). Can Liberalization of Trade in Services Promote the Innovation of Chinese Enterprises. *Journal of Zhongnan University of Economics and Law*, No. 3, 127-137, 160.
- Li, Y. H., Liu, X. L., & Liu, J. B. (2009). The Construction and Application on Evaluation Index System of Innovation Capability of Modern Service Industry. *Technology Economics*, 2, 1-6.
- Li, Y. J., & Xia, J. C. (2011). Development Present Situation and Policy Recommendations on China's High Technology Services Convergent. *Economy and Management*, 25, 5-10.
- Liu, Z. B. (2018). Understanding High-Quality Development: Basic Characteristics, Supporting Elements and Current Key Issues. *Academic Monthly*, 50, 39-45.
- Miles, I. (2005). Knowledge Intensive Business Services: Prospects and Policies. *Foresight*, 7, 39-63. <https://doi.org/10.1108/14636680510630939>
- Miles, I., Kastrinosn, N., Bilderbeek, R. et al. (1995). *Knowledge-Intensive Business: Their Role as Users, Carriers and Sources of Innovation*. Manchester Press.
- Muller, E., & Doloreux, D. (2009). Managing the Protection of Innovations in Knowledge-Intensive Business Services. *Technology in Society*, 31, 64-72. <https://doi.org/10.1016/j.techsoc.2008.10.001>
- Nie, C. F., & Jian, X. H. (2020). Analysis and Comparison of Measurement of High-Quality Development and Inter-Provincial Status in China. *Journal of Quantitative & Technical*

- Economics*, 37, 26-47.
- OECD (2001). *Organization for Economic Cooperation and Development, Innovation and Productivity in Services* (pp. 3-21). OECD Publishing.
- Shen, J., & Zhou, Q. (2015). The Connotation and Extension of High-End Service Industry in Beijing. *Technical Economics*, 34, 38-43.
- Shi, D., Zhao, J. B., & Deng, Z. (2019). Understanding the Connotation of High-Quality Development from Three Levels. *Economic Daily*.
- Tian, Q. S. (2018). The Theoretical Connotation and Practical Requirements of High-Quality Development. *Journal of Shandong University (Philosophy and Social Sciences Edition)*, No. 6, 1-8.
- Tidd, J., & Bessant, J. (2011). *Managing Innovation: Integrating Technological, Market and Organizational Change*. Wiley.
- Waalkens, J., Jorna, R. J., & Postma, T. (2008). Absorptive Capacity of Knowledge-Intensive Business Services. *Entrepreneurial Learning: Conceptual Frameworks and Applications*, 1, 249.
- Wang, L., Gui, H. L., & Ke, H. L. (2008). *High-End Service Economy*. Jinan University Press.
- Wang, R. D. (2006). Study of Emerging Mechanism and Classification on Modern Service Industry with High Technology. *Journal of Beijing Jiaotong University (Social Sciences Edition)*, 5, 50-54.
- Wang, Y. D., Zhang, J., & Feng, L. (2009). Research on Evaluation Methods of High-Tech Service Industry. *Science & Technology Progress and Policy*, 26, 116-118.
- Wei, J., Tao, Y., & Chen, J. Q. (2008). The Empirical Study on the Implementation Framework of Service Innovation. *Science Research Management*, 29, 52-58.
- Wei, M., & Li, S. H. (2018). Research on the Measurement of China's High-Quality Economic Development Level in the New Era. *Journal of Quantitative & Technical Economics*, 35, 3-20.
- Wu, B. (2020). Statistical Measurement of the Development of Modern Service Industry in China. *Journal of Shandong Technology and Business College*, No. 12, 31-36.
- Xu, H. S., & Liu, L. Y. (2019). The Development of High-End Service Industry Based on Opening-Up of Services: A Case of Beijing. *Modern Economy*, No. 10, 1897-1913. <https://doi.org/10.4236/me.2019.108122>
- Yao, Z. Q. (2019). The Impact of the Opening up of Service Industry on the Upgrading of China's Industrial Structure. *Reform*, No. 1, 54-63.
- Yu, Y. Q., & Xia, Y. M. (2010). The Research on the Influence Factors of Innovation Ability in the Knowledge Intensive Business Services. *Science & Technology Progress and Policy*, 27, 55-58.
- Zhou, Q. X. (2012). Analysis of the Development Status, Problems and Countermeasures of High-End Service Industry in Guangzhou. *Science and Technology Management Research*, No. 2, 85-86.