Original Paper

Current Situation, Challenges and Development Path of Government Data Resource System Construction in Shaanxi Province

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Abstract

In today's era of surging waves of digitization, government data has risen to become an extremely important strategic resource. To enhance the scientific nature of government decision-making, it is like an accurate navigator, which can help the government make wise choices in the complex and changing development situation; in optimizing the supply of public services, it is like a caring intelligent assistant, which enables the public to enjoy more convenient, efficient and personalized services; and in promoting the process of economic and social development, it is like a strong enabler, which injects constant momentum into the innovation and progress of various industries, which has an irreplaceable and crucial role. It is like a powerful booster in the process of promoting economic and social development, injecting innovation and progress into all walks of life, and has an irreplaceable key role. Shaanxi Province, keenly observing this trend, has actively engaged in the exploration journey of government data resource system construction, and has made every effort to build an integrated and high-efficiency government data management and application pattern, aiming at accurately matching the diversified needs of the new era of development, realizing the leapfrog development of digital transformation, and making its presence felt in the wave of the national government data construction, so as to provide the prosperity and development of the Sanqin land with solid data support and innovation power. The company will also provide solid data support and innovative power for the prosperous development of the Sanqin land.

Keywords

government data, resource system, construction path

1. Effectiveness of the Construction of Government Affairs Data Resource System in Shaanxi Province

1.1 Establishment of Government Affairs Data Resource Management System

Shaanxi Province has made efforts to promote the construction of the government affairs data resource system, and has achieved remarkable results. In terms of improving the policy and regulatory framework, regulations such as the Measures for the Management of Administrative Data in Shaanxi Province and the Implementing Rules for the Sharing and Opening of Administrative Data in Shaanxi Province have been issued to clearly define the principles, duties and processes of administrative data management, provide institutional safeguards for data governance, make the data management legally compliant, standardize the collection, storage, use and sharing links, and safeguard the security of the data and citizens' privacy. In terms of strengthening the organizational and management structure, a leading group on government affairs data management has been set up with the leadership of the provincial government and the participation of the heads of various departments, and governments at all levels have also established a coordination mechanism and clarified the main body of responsibility, so as to ensure that the province's work on government affairs data management is advanced in an orderly manner. In terms of formulating data standards and norms, local standards such as "Shaanxi Province Government Affairs Data Classification and Grading Standards" and "Shaanxi Province Government Affairs Data Catalog Preparation Norms" have been formulated to unify the requirements for data classification, grading and cataloging, and after implementation, realize the standardized management of government affairs data, improve data quality, lay the foundation for sharing and exchange, and vigorously push forward the development of the construction of the government affairs data resource system.

1.2 Construction of Government Affairs Data Resources Catalog System

Shaanxi Province launched the catalog of government affairs data resources in 2020, and based on the functions of government departments, comprehensively combed government affairs data of government departments at all levels across the province, and successfully formed the first provincial-level catalog of government affairs data resources. The catalog covers data in many fields, including economic management, social affairs, and people's livelihood services, initially clarifying the bottom line of governmental data in Shaanxi Province, and pointing out the direction for the subsequent integration and sharing of data resources. At the same time, a dynamic updating mechanism for the governmental data resource catalog has been established to ensure that the catalog can present the changes in governmental data in real time, so as to make the data resource management more timely and accurate, and continue to build a solid foundation for the construction of the governmental data resource system. Departments regularly update their data catalogs in accordance with regulations, incorporate new data in a timely manner, and adjust changed data in a timely manner, ensuring the timeliness and accuracy of the catalogs, so that data users can obtain the latest and most accurate information on government affairs data.

1.3 Promoting the Construction of a Government Affairs Data Resource Base System

Shaanxi Province has vigorously carried out the construction of data resource libraries at the provincial level, and has now successfully and initially built basic libraries for population, legal persons and natural resources, as well as thematic libraries for social security, taxation and transportation. The construction of these libraries follows unified data standards, which not only realizes centralized data storage and management, but also builds a solid foundation for cross-departmental data sharing and business synergy, among which the basic population library accurately empowers the work of population management and social security by integrating the population data of public security, civil affairs, and health departments. At the municipal level, the municipal governments are actively exploring the practice of building data repositories according to local conditions. Xi'an City has created thematic data repositories in the fields of urban management and public services in the construction of smart cities, which helps urban governance to become refined; Xianyang City focuses on the field of agriculture and rural areas, focusing on the construction of relevant data repositories, which vigorously promotes the process of agricultural informatization, and significantly improves the efficiency of agricultural production and the management of the countryside. The construction of data resource base in the province has achieved remarkable results and developed strongly.

1.4 Building a Government Data Resource Sharing and Exchange System

Since 2019, Shaanxi Province has gradually constructed and operated government data sharing and exchange platforms at the provincial and municipal levels, realizing the interconnection of national, provincial and municipal platforms, and becoming a key hub for sharing and exchanging data across levels, geographies, departments, systems and businesses. The provincial sharing platform has horizontally connected more than 70 provincial departments and vertically covered 10 cities and municipalities in the province, covering data in various fields such as economy, society and people's livelihood, which has strongly promoted the circulation and sharing of data. Municipal platforms have also been completed and put into operation, thus establishing an efficient sharing and exchange system with interconnection between provincial and municipal platforms. The provincial platform has been successfully connected to many provincial departments and some municipal platforms, aggregating and integrating massive government data resources such as enterprise registration information and social security payment information, and effectively achieving cross-departmental and cross-level data circulation and sharing. With the help of this sharing and exchange platform, Shaanxi Province has realized the in-depth sharing and application of data in many fields, and has reached the "one network for all" in the field of government services, allowing enterprises and the public to handle a number of governmental affairs on a single platform, significantly cutting down on the process of doing business and significantly improving efficiency; at the level of social governance, public security, urban management and other departments rely on data sharing to promote joint law enforcement and social security payment information, as well as to promote the use of data resources. At the level of social governance, public security, urban management and other departments have relied on data sharing to

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promote joint law enforcement and collaborative management mode, which has strongly enhanced the effectiveness of social governance, and the province's data construction and application work has been highly effective, showing a good momentum of vigorous development, and injecting strong impetus for the development of various undertakings.

1.5 Exploring the Openness of Government Data Resources and Trading System

Shaanxi Province, based on the Regulations on Open Government Information, has actively promoted the active disclosure of government data by various departments through their official websites. Meanwhile, some cities and municipalities, such as Baoji and Xianyang, have carried out pilot construction of data opening platforms and achieved initial results, enhancing the transparency and social utilization value of government data. In terms of data trading, Shaanxi Province has actively organized various parties to carry out research and explore the establishment of a data trading system and market mechanism in line with the provincial conditions, so as to lay a theoretical foundation for cultivating the data trading market.

2. Problems Faced in the Construction of Governmental Data Resource System in Shaanxi Province

First, there is insufficient synergy in data governance, the management of government data in various departments has localism, the awareness of data sharing is weak, and some of them resist sharing for fear of damage to interests or security problems, the data interface is not unified, and the standard difference is big, which makes it difficult to share and exchange and affects the effectiveness of the government data resource system, the governance process of government data has not been rationalized, and there is lack of unified and standardized process in the collection, storage, and use of the process, and the data quality monitoring mechanism is not perfect. Some of the data are inaccurate and incomplete, affecting their reliability and usability.

Secondly, it is difficult to integrate data resources, and there are a large number of informatization systems in government departments at all levels. Early tax collection and management systems and recent e-government service platforms, with a large span of construction time and very different technical architectures, have formed a lot of "information islands". The data between the systems cannot be interconnected, it is difficult to interact with the data, and the integration requires a lot of human and material resources, which hinders the intensive aggregation and efficient utilization of government data resources. The problem of duplicated data collection is prominent, aggravating the burden on society and affecting the image of government services.

Third, data security challenges, government data widely used and shared, security risks are rising, Shaanxi Province in the data encryption, access control, data desensitization and other security technology application is not yet mature, difficult to defend against data leakage, tampering and other threats, and the security management system is not perfect, the responsibility is not clear, the lack of systems and emergency response mechanisms, the security awareness of some personnel is weak, there

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are irregularities in the operation of the data of the risk, it is urgent to improve in order to protect the data security. Data security.

Fourth, the level of data openness and application needs to be improved, Shaanxi Provincial Government data open platform data storage format is not standardized, the update is not timely, availability and value to be up, its description of the information is not detailed and meticulous users are difficult to understand the meaning of the data use, affecting the development and utilization of government data, and all sectors of the community on the government data application of the limited ability to innovate, data-driven innovation and application of fewer scenarios, the government departments to guide the support of the data application of innovation measures are not effective, the lack of effective incentive mechanisms.

Fifth, the quality of data on the open government data platform needs to be further improved, and the format of some data is not standardized and the description is not accurate, which affects the availability of data. The standards and norms for data opening are not perfect enough, and there is a lack of unified requirements for data opening formats, interface specifications and other aspects. It is necessary to strengthen the quality management of data openness and improve the standards and norms of data openness. The trading market is still in its infancy, with a small number of market players and low trading activity. The pricing mechanism and revenue distribution mechanism of data transactions are not perfect enough, which restricts the development of the data transaction market. Transaction regulatory mechanism, the legitimacy and compliance of data transactions are difficult to guarantee. It is necessary to cultivate and grow the main body of the data transaction market, improve the data transaction mechanism, and strengthen the supervision of data transactions.

3. The Development Path of the Construction of the Governmental Data Resource System in Shaanxi Province

3.1 Strengthen Coordination and Improve the Working Mechanism

In the construction of government affairs data resource system in Shaanxi Province, it is crucial to strengthen organizational leadership and optimize workflow. Strengthening organizational leadership needs to strengthen the overall coordination role of the leading group of government affairs data management, hold regular meetings to solve major construction problems, clarify the division of responsibilities of various departments, improve the collaboration mechanism, and promote communication and coordination to form a synergy. Optimization of workflow should develop a unified data governance process and operational specifications, clarify the requirements and standards of each link, establish a quality monitoring and assessment mechanism, and regularly check the data to ensure its accuracy, completeness and consistency.

3.2 Promoting Data Integration and Breaking Information Islands

Shaanxi Province government data resource system construction, system integration project and data sharing center construction is the key. The former should formulate a plan to sort out the informatization systems of government departments at all levels, promote interconnection and data sharing according to

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a unified standard architecture, establish a financial guarantee mechanism, and increase investment to reduce costs. The latter draws on the experience of building centers, as data storage and exchange hubs, various departments to access data, sharing and exchange, to avoid duplication of collection and storage, to enhance the efficiency of resource utilization and overall effectiveness, and to promote the construction of the system to move forward.

3.3 Strengthening Data Security

Shaanxi Province government data resource system construction, improve the level of security technology and improve the security management system is the key to ensure data security. Enhance the level of security technology, increase investment in research and development and application of data security technology, promote data encryption, access control, data desensitization and other means, establish a risk early warning and monitoring mechanism, real-time monitoring of the security situation, timely detection and treatment of hidden dangers, and build a solid technical protection. Improve the security management system, clarify the responsibility for security management, improve the system, standardize the operation process, strengthen personnel security training, improve security awareness, formulate emergency plans and regular drills, improve the ability to respond to security incidents, and safeguard the security and stability of government data.

3.4 Enhancing Data Openness and Application

In the construction of the government affairs data resource system in Shaanxi Province, improving the quality of open data and cultivating the data application ecology complement each other. In terms of improving the quality of open data, a data opening audit mechanism has been established to strictly audit the data to be opened to ensure quality compliance, standardize the open format and provide detailed descriptions and examples to enhance the readability and usability of the data, and at the same time, strengthen the updating and maintenance to ensure the timeliness. In terms of fostering the data application ecology, it has formulated incentive policies to guide all sectors to participate in government data application innovation, established innovation incubation bases, provided relevant enterprises with venues, funds and technical support, and strengthened cooperation with universities and scientific research institutes to carry out application research and talent training, so as to enhance the data application innovation capability, thereby promoting the construction of a high-quality development of the government data resource system.

3.5 Promoting the Opening and Trading of Government Affairs Data

Shaanxi Province should focus on two aspects of data opening and trading. In terms of data opening, all efforts should be made to improve the standards and specifications, unify the data opening format and interface specifications, ensure the standardization and universality of data, and facilitate the use of all sectors of the society. At the same time, it has strengthened the operation and management of the data opening platform and improved the frequency of data updates so that the data can reflect the actual situation in a timely manner and meet the public's demand for fresh data. Establishing a quality supervision mechanism for open data, regularly checking and evaluating the quality of open data to

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ensure that the data are accurate, complete and usable, and actively encouraging the public to participate in the supervision and feedback to form an all-round supervision system. In the field of data trading, vigorously increase cultivation efforts to attract many market players to engage in data trading and promote market activity. Further improve the core elements of the data trading pricing mechanism and revenue distribution mechanism to facilitate the healthy and sound development of the data trading market. Strengthen the supervision of data trading, establish a sound regulatory system, strictly regulate trading behaviors, and in particular, strengthen the supervision of data trading platforms to effectively ensure that data trading activities are legal and compliant, and create a safe and orderly environment for data trading.

4. Conclusion

Shaanxi Province has already made some achievements in the journey of government data resource system construction, and the results in data convergence and integration, part of the system docking and other aspects have begun to show, providing certain convenience for the operation of government affairs. However, difficulties and opportunities coexist, facing many challenges such as insufficient in-depth integration of data and the need to upgrade security. With the continued strengthening of the coordination mechanism, bringing together all parties to attack; efforts to enhance the level of data integration, promote the synergy of the whole region data; constantly improve the management system to ensure orderly data management; accelerate the pace of digital transformation, keep pace with the times; vigorously enhance the effectiveness of the platform services, optimize the data application experience; actively promote the data open transaction innovation and exploration, release the potential of data elements, will make the government affairs The data resource system will certainly enable the government affairs data to move towards a better realm. This will significantly improve the quality and value of government data, build a solid foundation for the construction of digital government, and drive the high-quality development of the economy and society to a new height. Looking ahead, Shaanxi Province will closely focus on national policy guidelines, actively learn from the successful examples of advanced regions, consistently improve the government data resource system, ride the wave of digitization, and accurately meet the development needs of the times.

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