The intermediary effect of data management in the management standard system of the underdeveloped China Full Name Health Information Platform

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Abstract

The establishment of the National Health Information Platform for All has prompted the development of regional health information platforms across various regions.This research focuses on classifying regions into developed,more developed,and underdeveloped categories and examines the application status and challenges of regional health information platforms.Taking City B in G Province,China,as a pilot case.The study aims to establish a standardized system framework for managing regional health information platforms to enhance the implementation of comprehensive health platforms and improve the governance capacity of regional medical informatization.

The study process employs a combination of literature and data analysis,theoretical and empirical approaches,as well as qualitative and quantitative methods.The literature review provides a theoretical and reference foundation by examining domestic and international research on information platform construction and application.Field research methods are used to assess the current state of regional medical informatization,data exchange,and application. In addition,a standardized framework for managing these platforms is proposed,encompassing design planning and construction management,organizational structure management,data standard management operation and maintenance service management security management,and guarantee fund management.Furthermore the impact of planning and construction management,data management,operation and maintenance,and security management on the sustainable development of regional national health information platforms are proposed,aiming to enhance regional medical information governance capabilities.

Overall,this research contributes to the advancement of regional national health information platforms by providing a detailed analysis of management issues and proposing a standardized framework to facilitate effective governance and sustainable development.

Research Conclusion mainly including:

(1) Analyzed the current status of relevant standards for regional national health information platforms and

explored the problems in their development Question.
(2) Based on the current development status and actual needs of the platform, and referring to the relevant theoretical methods formulated by the platform management standard system, a framework for the management standard system of the regional national health information platform is constructed. The framework consists of platform planning and construction management standards, platform organization management standards, platform standard management standards, platform data management standards, platform operation and maintenance management standards, platform safety management standards, and platform emergency response standards The platform's fund guarantee standard consists of 8 parts.
(3) Proposed key elements: planning and construction, operation and security management, and the impact of data management on the sustainable development of the platform.

Keywords
Regional public health information platform; Standardized management; System; sustainable development

CHAPTER 1 Research Motivation

In this study, the management norms of the regional national health information platform play an important role in guiding and promoting the sustainable development of the platform. This study analyzes the current situation and problems of the construction of regional national health information platforms, establishes a framework and key elements for the management of regional national health information platforms, and quantitatively studies the relationship between key elements and the sustainable development of the platform. Through systematic analysis and in-depth exploration of core research issues, it is planned to achieve the following three key research objectives:

1.Based on the construction case of the National Health Information Platform and the application case analysis of the National Health Information Platform, identify the key elements of the platform management standard system and the roles and impact relationships between them.

2.Combining multi-source flow theory, data lifecycle theory, and policy diffusion theory, construct a conceptual model and propose relational hypotheses.

3.Verify the model and relationship assumptions through empirical and data analysis.

In terms of theory, it can provide scientific theoretical significance and reference for establishing and improving the management standard system structure of regional national health information platforms.

Information is the foundation for the survival and development of human society, especially in the current era of economic globalization and social informatization. The integration and application of various types of information data and technological tools bring about innovation in business formats, industrial agglomeration and diffusion, promoting unprecedented production quality, production efficiency, and market transaction efficiency in human society. The healthcare industry is also on the eve of information revolution. As a new driving force for improving quality and efficiency in the healthcare industry, healthcare information resources are supporting and driving the accelerated transformation and upgrading of healthcare service models, con-

tinuously deepening the supply side structural reform of healthcare services, and becoming the commanding heights of a new round of global competition in the healthcare industry (Xu Dan, Lei Yonggui, Zhong Weijun, 2016). The layout planning and configuration application development of healthcare information resources will bring profound changes to the healthcare model, which is conducive to improving the efficiency and quality of healthcare services, expanding resource supply, continuously stimulating new driving forces for deepening the reform of the healthcare system, cultivating new business formats and economic growth points, and continuously meeting the multi-level and diversified health needs of all people.

1. It is conducive to standardizing the construction and implementation management of regional public health information platforms.

Establishing and improving the management standard system of the regional national health information platform is the need to promote the development of informatization, accelerate the construction and application of various application systems, realize the sharing and exchange of Health data, and facilitate the coordination of various departments in university management. Through the research, formulation, and application promotion of standards, continuous enrichment, improvement, and innovative development in practice, new experiences, methods, and technologies formed in specific practice and scientific research can in turn promote the improvement of existing standards and the research and formulation of new standards, guiding platform construction.

2. It is conducive to improving medical and health Big data governance capability.

The application of the National Health Information Platform will promote the optimization and innovation of health business management models and processes, and overall promote the operational efficiency of health services in this city. In terms of medical services, reducing unnecessary medical procedures, guiding reasonable diagnosis and treatment paths, allowing medical staff to focus on the medical business itself, improving the efficiency of the diagnosis and treatment process, reducing patients' time in the hospital, and objectively reducing the operating costs of the hospital. In terms of public health, it is necessary to have a more comprehensive understanding of the business information of public health in this city, promote the optimization of public health management and service models, promote the scientific formulation of policy mechanisms, enhance the overall energy efficiency of the city's public health system, thereby improving the prevention and control of group health, and accelerating the improvement of environmental factors that affect group health. In terms of comprehensive management, it is able to timely grasp health resource information, citizen health information, medical institution operation information, public health management information, etc., alleviating the traditional hierarchical reporting mechanism, reducing the tedious process of manual verification, improving the accuracy and timeliness of various indicators, and improving the efficiency of comprehensive management decision-making.

3. It is conducive to completing the task of national health informatization construction.

Both the 13th Five Year Plan for Health and Health and Healthy China regard population health informatiza-

tion as an important task, proposing the construction of a health informatization service system, relying on regional population health information platforms to achieve continuous recording of electronic health records and electronic medical records, as well as information sharing among medical institutions of different levels and categories. The national major e-government project has included the information technology project for national health security as an important task, proposing the establishment of a practical and shared comprehensive population health information system that integrates traditional Chinese and Western medicine, strengthening information standardization, and gradually achieving unity, efficiency, and interconnection. The 13th Five Year National Population Health Informatization Development Plan clearly requires the establishment of a unified and standardized national population health care Big data resource directory system, and in accordance with the principle of "one number, one source, and multiple verification", it will achieve centralized authoritative supervision of data, authorization, classification, and regional management, and steadily promote the sharing and opening of population health care Big data resources on the premise of strengthening safety protection and privacy protection according to law. The Guiding Opinions of the General Office of the State Council on Promoting and Standardizing the Development of Health and Medical Big Data Applications propose to fully rely on the national e-government extranet and unified data sharing and exchange platform, expand and improve existing facilities and resources, and comprehensively build a national, provincial, municipal, and county-level population health information platform that is interconnected and shared, and strengthen public health, family planning, medical services, medical security, and drug supply Integrated management and other application information system data collection, integration and sharing, and business collaboration (Jin Yan, Zhao Yidan, Xie Shuangbao, 2018). The country attaches great importance to the construction of the National Health Information Project and conducts research on the platform standardization system. This is the foundation and prerequisite for achieving interconnection and data sharing, and also a requirement to respond to national policies and complete the task of national health information construction.

4. It is conducive to eliminating information islands and Information silo.

At present, the common problem in various medical institutions is the lack of unified planning for system construction, the existence of a segmented structure and multi head management, and the difficulty in coordinating management and data application caused by vendors with different capability dimensions, which does not meet the requirements of refined management. There is an urgent need to establish a unified data resource center and business application center, so that health and medical data can be fully circulated and effectively solve the problems of data silos and data corruption.

5. It is conducive to reducing the threshold for use and reducing operation and maintenance costs.

At present, the large-scale national health information platform to be established has a wide range of data types, complex relationships, exchange types and exchange volumes. With the sharp increase of business forms and data volumes, the original high integration form has not adapted to the existing information System integration mode and the construction mode, and the system operation and maintenance work pressure has increased. Therefore, it is urgent to adopt appropriate construction mode and operation and maintenance mode, and reduce the threshold of application system construction, Reduce management and operational

maintenance costs. Enable medical institutions to enjoy the most professional technical research and development, as well as the most professional operation and maintenance services, while effectively controlling costs, thereby reducing operation and maintenance costs, improving system standards, and obtaining high-quality services.

6. It is beneficial for improving application value.

Provide improvement strategies based on comprehensive evaluation results from both supply and demand sides and SWOT analysis models for tertiary comprehensive hospitals to identify deficiencies in health management service capabilities, identify weak links in health management services, enhance health management service capabilities, and play a leading role in regional demonstration (Hao Yan, Lu Jiafa, Liu Wenwen, 2017). Provide action plans for different levels of medical institutions in the national health information platform to find their own entry points or relay points in health management. Provide policy recommendations for relevant government departments to jointly introduce temporary regulations on health management services and promote the implementation of health management.

A sound management standard system for the national health information platform is beneficial for truly meaningful, personalized, and continuous health management, providing a powerful platform that makes truly meaningful health management possible. We will promote the optimization and innovation of health business management models and processes, and overall promote the operational efficiency of regional health services. In terms of medical services, reducing unnecessary medical procedures, guiding reasonable diagnosis and treatment paths, allowing medical staff to focus on the medical business itself, improving the efficiency of the diagnosis and treatment process, reducing patients' time in the hospital, and objectively reducing the operating costs of the hospital. In terms of public health, it is necessary to have a more comprehensive understanding of the business information of public health in this city, promote the optimization of public health management and service models, promote the scientific formulation of policy mechanisms, enhance the overall energy efficiency of the city's public health system, thereby improving the prevention and control of group health, and accelerating the improvement of environmental factors that affect group health. In terms of comprehensive management, it is able to timely grasp health resource information, citizen health information, medical institution operation information, public health management information, etc., alleviating the traditional hierarchical reporting mechanism, reducing the tedious process of manual verification, improving the accuracy and timeliness of various indicators, and improving the efficiency of comprehensive management decision-making.

CHAPTER 2 Research literature and hypothesis development

The construction and interconnection of regional population health information platforms are a new round of technological revolution centered on information technology and the cross-border integration and convergence of the medical and health service industry. They are reconstructing a new pattern in China's medical and health service field. Comprehensive population health information platforms at all levels and the implementation of interconnectivity and exchange of medical data information are inevitable requirements for improving the quality of medical services and changing medical models with new health concepts as the core in the new era. It is also an inevitable trend in the development of health informatization at home and abroad.

The construction of population health informatization started relatively late in China and is still in an active state of construction. The construction of the regional population health information platform in this city has achieved some results with the increase of government investment in recent years. However, in the face of the new wave of medical and health service reform, there are still many problems that need to be solved. At present, the independent construction of business information systems in many medical institutions in this city has resulted in a large number of "information silos" between hospitals, medical institutions, and different business systems. Information cannot be shared, and there are problems such as duplicate construction, decentralized construction, multi head management, multi head collection, and multi system coexistence. Business collaboration and data sharing urgently need to be strengthened. As a livelihood oriented and comprehensive data platform, the regional public health information platform plays a crucial role in the sustainable development of the platform, including data interconnection, data security management, and data restoration.

Through systematic analysis and in-depth exploration of research issues, the following conjecture is proposed to be constructed:

H1: Data management has a mediating effect on the sustainable operation and development of the platform through planning and construction.

H2: Data management has a mediating effect on the sustainable operation and development of the platform in operations and security management.

CHAPTER 3 Research Method

Literature and data summary analysis method.Select keywords to search major literature databases. Through studying a large number of research literature, extensively refer to domestic and foreign scholars' works on health care, information resources, and other aspects. At the same time, collect a large amount of government news, announcements, bulletins, and policy measures related to health and medical informatization. Through summarizing, organizing, and analyzing all the collected materials, Furthermore, it provides reference for conducting research on the layout of health and medical information resources in China (Zhang Junfang, Zhou Hongyue, Yao Haiyan, 2013).

Combination of theory and empirical evidence.This study comprehensively applies various theories such as regional economic theory, incremental marginal benefits theory, external economic theory, information network resource sustainability theory, information economics theory, industrial agglomeration theory, and health economics theory to conduct a deep analysis of the current situation and problems of China's health and medical information resources (Du Jiao, Wang Fuzhen, 2016). On this basis, through quantitative empirical analysis of the application level of health and medical information resources in China, and drawing on the development experience of developed countries in the application of health and medical information resources, an empirical analysis of the spatial evolution characteristics of the agglomeration development of health and medical information resources in China was conducted, and the results of the empirical analysis were deeply explored, Proposed policy recommendations for the innovative development and spatial layout of China's health and medical information resource agglomeration and application in the future.

Combination of Qualitative and Quantitative Methods.When conducting this study, a certain qualitative explanation was provided on the theories, meanings, and properties related to the application level of health and medical information (Du Jiao, Wang Fuzhen, 2016). At the same time, in order to make research methods such as measuring the application level of health and medical information resources and information resource layout more scientific and the research results more convincing, this study also adopted quantitative analysis methods for the layout of health and medical information resources. By selecting appropriate indicator data, the application level of health and medical information resources in China was measured, and the characteristics of the agglomeration development of health and medical information resources in China were analyzed. In addition, considering the complexity of the research subject of this topic and the subjectivity of the development and policy implementation of health and medical information resources, relying solely on subjective quantitative analysis cannot solve all problems correctly in constructing a quantitative evaluation system of health and medical information resources. Therefore, it is necessary to combine qualitative and quantitative analysis, and rely on the comprehensive analysis of the two to carry out the research.

3.1 Research Architecture and Assumptions

Based on the theoretical basis combed in the literature review chapter and the path mechanism explored in the Case study, the conceptual model of planning and construction, operation and maintenance and safety management, data management, and platform sustainable operation and development is constructed from the two theoretical perspectives of the process optimization theory and attention theory, as shown in Figure 3-1. And propose the following research hypotheses:

H1: Data management has a mediating effect on the sustainable operation and development of the platform through planning and construction.

H2: Data management has a mediating effect on the sustainable operation and development of the platform in operations and security management.

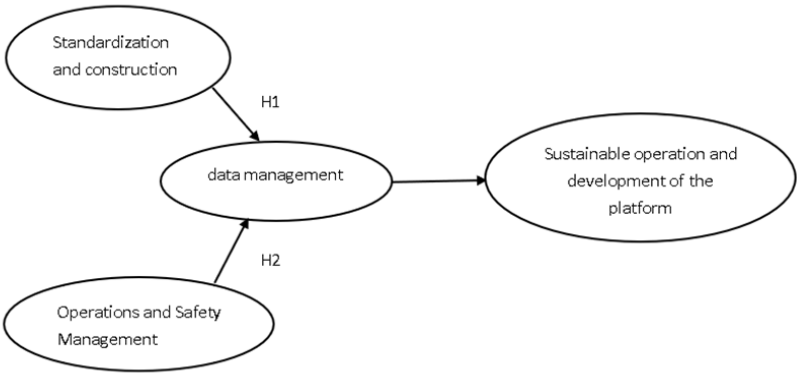


Figure 3-1 Conceptual Model Diagram

3.2 Research process design

Firstly, using the field research method, health and family planning administrative departments, professional public health institutions, hospitals, etc. at the city, county, and township levels of B city in G province were selected for field research to understand and grasp the current situation and existing problems of the management standards of the regional national health information platform. The problems were summarized,

extracted, and summarized, laying the foundation for the construction of the management standard system framework of the regional national health information platform. Then use a combination of qualitative and quantitative methods. By selecting appropriate indicator data, the application level of health and medical information resources in China was measured, and the characteristics of the agglomeration and development of health and medical information resources in China were analyzed. Considering the complexity of the research subject of this topic and the subjectivity of the development and policy implementation of health and medical information resources, it is not possible to solve all problems correctly by relying solely on subjective quantitative analysis in constructing a quantitative evaluation system of health and medical information resources. Therefore, it is necessary to combine qualitative and quantitative analysis, and rely on the comprehensive analysis of the two to conduct research.

3.3 Questionnaire design

Step 1: Clarify the research objectives. Do things with clear goals, and the same goes for designing questionnaires. We first need to clarify what we want to know in the investigation. At this point, it should be noted that the question we want to understand must be specific. Only when the research question is sufficiently specific can our questionnaire design focus on the concepts and variables we want to measure.

Step 2: Clarify the research concept. After clarifying the research questions, we can further list the concepts we need to measure. Research concepts are often abstract, and we need to further transform these abstract concepts into measurable indicators.

Step 3: Develop a data analysis plan. When the data analysis plan is clear, we can allocate valuable questionnaire space reasonably to ensure that important variable information can be collected completely, and unimportant variable information will not occupy too much space.

Step 4: Collect information. We need to do a lot of literature research. Of course, in addition to obtaining information from literature, we can also further obtain information through expert seminars and Focus group interviews. These methods can help us gain a more comprehensive, in-depth, and accurate understanding of the core concepts to be measured.

Step 5: Write the question. The most important point in writing a question is to think from the perspective of the interviewee. In addition, in this step, we also need to deal with the issue of questionnaire layout, such as writing the opening and closing remarks, grouping and sorting of questions, and encoding variables. If the questionnaire needs to be computerized, we need to specify the programming language; If there are visitors participating, we need to indicate the visitor's operating instructions; If the questionnaire is filled out by the respondents themselves, the appearance of the questionnaire (such as font size, background color, etc.) also needs to be considered.

Step 6: Test and revise the issue. Questionnaire test is a crucial step in questionnaire design. Questionnaire test has systematic methods, such as expert review, Focus group interview, cognitive interview, behavior coding, trial survey, statistical results detection, etc. Based on the test results, we need to revise the questions.

3.4 Sample Source

This time, a total of 2000 questionnaires were distributed online, targeting hospital management, hospital information department personnel, medical informatization practitioners, and health management departments.

For the collected questionnaires, the collection rate of valid questionnaires should be calculated while excluding invalid ones. Maintaining a high questionnaire recovery rate (i.e. effective questionnaire rate) is also a guarantee for us to obtain true and reliable data. A total of 1500 questionnaires were collected in this survey, of which 900 were valid.

The descriptive statistics of the sample in this study are shown in Table 4.1, depicting the overall distribution of the collected questionnaire data samples. From Q1.2, it can be concluded that there are 351 male respondents, accounting for 39.00%, and 529 female respondents, accounting for 61.00%. There is a significant gender gap, with women significantly exceeding men, which is related to the business characteristics of engineering projects. From Q1.1, it can be seen that the age group of 21-30 (238 people, 26.4%) has the highest proportion, making it the group with the highest number of respondents, followed by the age group of 31-40 (202 people, 22.4%). This is consistent with the project experience distribution characteristics of 6-10 years (238 people, 26.4%) and 3-5 years (256 people, 28.4%), which to some extent reflects the good quality of the sample. From the perspective of educational qualifications, the number of respondents who have received college and undergraduate education (428 people, 47.6%) is the highest, while the number of respondents who have received master's education (169 people, 18.8%) and high school education or below (183 people, 20.30%) is relatively balanced, indicating that the respondents have good quality. This study also conducted statistics on Q1.4 and Q1.5, and classified the samples according to the specific situation of questionnaire collection. The total project amount is 5-20 million (245 projects, 27.2%), and the team size is 400-600 people (191 projects, 21.2%). The distribution of other project types is relatively uniform, reflecting the universality of sample coverage. In summary, the respondents have good project experience, which can effectively ensure the quality of questionnaire filling and improve sample reliability and validity. At the same time, calculate the mean and variance of each basic variable in the sample by assigning values to the item results. The results show that the variance of each variable is small, which also reflects the uniform and reasonable distribution of the sample.

Table 4.1 Statistical Description of Survey Samples

term	category	assignment	sample size	percentage	mean value	variance
Q1.1	Under 20 years old	1	174	19.30%	2.8	1.706
	21-30 years old	2	238	26.40%		
	31-40 years old	3	202	22.40%		
	41-50 years old	4	169	18.80%		
	Over 50 years old	5	117	13.00%		
Q1.2	male	1	351	39.00%	1.61	0.238
	female	2	549	61.00%		

Q1.3	High school or below	1	183	20.30%	2.82	1.732
	junior college	2	205	22.80%		
	undergraduate course	3	223	24.80%		
	Master	4	169	18.80%		
	PhD or above	5	120	13.30%		
Q1.4	Less than 5 million	1	205	22.80%	2.5	1.158
	5-20 million	2	245	27.20%		
	20-50 million	3	247	27.40%		
	Greater than 50 million	4	203	22.60%		
Q1.5	Less than 200 people	1	204	22.70%	2.79	1.840
	200-400 people	2	204	22.70%		
	400-600 people	3	191	21.20%		
	600-800 people	4	177	19.70%		
	More than 800 people	5	124	13.80%		
Q1.6	Less than 3 years	1	212	23.60%	2.46	1.152
	3-5 years	2	256	28.40%		
	6-10 years	3	238	26.40%		
	over 10 years	4	194	21.60%		

3.5 Reliability and Validity

1.Measurement Model Analysis

The SmartPLS3.0 used in this study has its own confirmatory factor analysis related parameter analysis function, so the verification of the entire measurement model is also achieved through SmartPLS3.0 software.

Table 4.2 Reliability and Validity Testing of the Measurement Model

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variable	Subhedron	Measurement items	Factor load	Cronbach's α	CR	AVE
Operations and Safety Management	Organizational Structure Management Standards	2.1	0.893	0.913	0.939	0.793
		2.2	0.884			
		2.3	0.886			
		2.4	0.899			
	Process standardization	2.5	0.872	0.938	0.951	0.715
		2.6	0.876			
		2.7	0.834			
		2.8	0.872			
		2.9	0.875			
		2.10	0.877			
	Principles of Knowledge Management	2.11	0.875	0.888	0.923	0.749
		2.12	0.889			
		2.13	0.883			
		2.14	0.894			
Standardization and construction	Principles of Knowledge Management	3.1	0.885	0.882	0.919	0.738
		3.2	0.885			
		3.3	0.883			
		3.4	0.890			
	check and balance	3.5	0.886	0.884	0.92	0.743
		3.6	0.897			
		3.7	0.892			
		3.8	0.894			
	Strict supervision	3.9	0.885	0.878	0.916	0.732
		3.10	0.863			
		3.11	0.864			
		3.12	0.848			
data management	Data security guarantee	4.1	0.774	0.840	0.893	0.675
		4.2	0.788			
		4.3	0.797			
		4.4	0.803			
	Clear data standards	4.5	0.803	0.850	0.899	0.690
		4.6	0.802			
		4.7	0.810			
		4.8	0.796			
Sustainable operation and development of the platform		5.1	0.897	0.946 0.839	0.957	0.799
		5.2	0.888			
		5.3	0.883			
		5.4	0.888			
		5.5	0.883			
		5.5	5.5			

This study measured the differential validity of the measurement model. As shown in Table 4.3. According to the table, the measurement model of this study has good discriminative validity.

Table 4.3 Correlation coefficient of Latent and observable variables in the measurement model

	Sustainable operation and development of the platform	data management	Standardization and construction	Operations and Safety Management
Sustainable operation and development of the platform	0.888			
data management	0.871	0.792		
Standardization and construction	0.658	0.672	0.864	
Operations and Safety Management	0.665	0.641	0.041	0.859

2.Structural Model Analysis

(1) Collinearity diagnosis

Using Pearson correlation coefficient

Pearson product moment correlation coefficient test for collinearity. When the correlation coefficient is higher than 0.85, it is prone to collinearity problems, which may lead to model misjudgment (Hill et al., 2001).

The analysis results of this study show that the correlation coefficients between the facets are all less than 0.85, and there is no collinearity problem in the model, as shown in Table 4.4.

Table 4.4 Collinearity diagnosis of Latent and observable variables in the measurement model

correlation				
	Standardization and construction	Operations and Safety Management	data management	Sustainable operation and development of the platform
Standardization and construction	1			
Operations and Safety Management	0.041	1		
data management	.641**	.672**	1	
Sustainable operation and development of the platform	.665**	.658**	.870**	1

**There is a significant correlation at the. 01 level (bilateral).

(2) Structural Model Interpretation and Predictive Power

R^2 It is one of the main evaluation criteria used to evaluate the path of structural models. R^2 The larger the model, the stronger its explanatory power. As shown in Table 4.5, all endogenous variables R^2 The values are all greater than 0.33, indicating that the model has moderate explanatory power.

The impact effect value f2 in this study is a small impact effect when $0.02<f2 \leq 0.15$ after removing specific external derivatives; $0.15<f2 \leq 0.35$ has a moderate impact effect; And $f2>0.35$ has a significant impact effect (Cohen, 2013). The significance is shown in Table 4.5. The effect of the external derivative variable on the internal dependent variable in this study is all above 0.02, and all valid hypotheses belong to the influential range.

Table 4.5 Interpretation and predictive power of structural models

route	R^2	f^2
Operations and Security Management ->Data Management	0.828	2.18
Standardization and Construction ->Data Management		2.419
Data Management ->Platform Sustainability	0.849	0.052

(3) Path coefficient analysis of structural models

After running the PLS algorithm on the model, this study identified the direct path coefficient of the structural model. The Effect size among the Latent and observable variables of the structural equation model are shown in Table 4.6.

Table 4.6 Effect size among Latent and observable variables of Structural Equation Model

assume Path relationship		Initial sample(O)	sample mean（M）	standard deviation（STDEV）	T-statistic（|O/STDEV|）	2.5% LL	97.5% UL	Moderate coordination
H1	Data management ->Sustainable operation and development of the platform	0.213	0.215	0.031	6.885	0.15	0.278	SRMR=0.039

H2	Standardization and construction -> data management	0.646	0.647	0.018	39.267	0.615	0.635	NFI=n/a RMS tneta 0.119
H3	Operation and Maintenance Emergency and Handling ->data management	0.614	0.614	0.015	40.067	0.585	0.655	

3.Mesomeric effect analysis

Mediation relationship testing is mainly achieved through the PLS Algorithm and Bootstrapping in Smart-PLS. The path coefficient of the preliminary test of model Mesomeric effect is shown in Table 4.7.

Mediation relationship testing is mainly achieved through the PLS Algorithm and Bootstrapping in Smart-PLS. The path coefficient of the preliminary test of model Mesomeric effect is shown in Table 4.7.

Table 4.7 Mesomeric effect test of the model

Path relationship	Initial sample (O)	sample mean（M）	standard deviation （STDEV）	（|O/STDEV|）	P	2.5%CILL	97.5%CIUL
Standardization and construction ->Data management ->Sustainable operation and development of the platform	0.138	0.139	0.020	6.777	***	0.096	0.180
Operations and Security Management ->Data Management ->Platform Sustainable Operation and Development	0.131	0.132	0.019	6.847	***	0.091	0.169

Note: * * * indicates that the P-value is significant at the 0.001 level

The initial sample value (Effect size) of data management on the sustainable operation and development of the platform in the model is 0.213 (T=6.885, P < 0.001), so if H1 is established, data management has a positive impact on the sustainable operation and development of the platform. The initial sample value (Effect size) of model data management for data security assurance is 0.958 (T=369.567, P<0.001), so assuming H2 is established, data management has a positive impact on data security assurance. In the model, the initial sample value (Effect size) of data management for the clarity of data standards is 0.96 (T=370.067, P<0.001), so assuming H3 is true, data management has a positive impact on the clarity of data standards. The initial sample value (Effect size) of norms and construction on strict supervision in the model is 0.237 (T=8.440, P<0.001), so if H4 is established, norms and construction have a positive impact on strict supervision. In the model, the initial sample value (Effect size) of norms and construction on the sustainable operation and development of the platform is 0.278 (T=42.267, P < 0.001), so if H5 is established, norms and construction have a positive impact on the sustainable operation and development of the platform. The moderation index SRMR of this study is 0.039. According to Hu and Bentler's (1998) standard, SRMR<0.1 is acceptable, while the stricter standard is SRMR<0.08. RMS theta<0.12 represents a good adaptation mode (Henseler et al. 2014). The standardized root mean square residual SRMR<0.05 and RMS tneta=0.119 in this study indicate a good fit of the model.

After testing, the indirect initial sample value (indirect effect coefficient) of data management in standardization, construction, and sustainable operation and development of the platform is 0.138 (T=6.777, P<0.001), so it is assumed that H7 is valid; The initial sample value (indirect effect coefficient) of data management between operation and security management and sustainable operation and development of the platform is 0.131 (T=6.847, P<0.001), so it is assumed that H8 is valid, and the confidence intervals of the above indirect effect assumptions do not include 0.

Chapter 5 Research Conclusion and Suggestions

5.1 Research Conclusion

The article first defines the relevant concepts of the regional national health information platform and introduces the relevant theoretical basis involved. Secondly, the current status and existing problems of the relevant standards and specifications of the regional public health information platform were discussed and analyzed develop a relatively complete framework and directory for the management and standardization system of regional public health information platforms. Finally, we studied the district prioritize the development of standardized management for the domain wide health information platform, and propose suggestions for standardized development. Research Conclusion mainly including:

(1) Analyzed the current status of relevant standards for regional national health information platforms and explored the problems in their development Question.

(2) Based on the current development status and actual needs of the platform, and referring to the relevant theoretical methods formulated by the platform management standard system, a framework for the management standard system of the regional national health information platform is constructed. The framework

consists of platform planning and construction management standards, platform organization management standards, platform standard management standards, platform data management standards, platform operation and maintenance management standards, platform safety management standards, and platform emergency response standards The platform's fund guarantee standard consists of 8 parts.

(3) Proposed key elements: planning and construction, operation and security management, and the impact of data management on the sustainable development of the platform. Through quantitative analysis, it has been confirmed that there are the following impacts among key elements:

H1: Data management has a mediating effect on the sustainable operation and development of the platform through planning and construction.

H2: Data management has a mediating effect on the sustainable operation and development of the platform in operations and security management.

5.2 Research recommendations

Data management is one of the key points in information construction work. Through sound organization, standardized management, comparative analysis, and comprehensive application, data management is organically integrated with enterprise production, thereby further improving the interests of enterprises.

1. Raise awareness and manage scientifically

Scientific management of data can only be achieved by elevating awareness and importance to a strategic level. Data is the foundation of the main software application. All enterprise information is ultimately integrated into data and stored in the database of the computer system. The staff obtains the required data from the backend database through the information exchange system, and obtains the results after processing by the intermediate information system. All queries and analyses require true, comprehensive, accurate, and consistent data. Some problems in the construction of enterprise informatization are mainly not due to the lack of good systems, but because the existing systems have not been well applied (Huang Wei, 2019). Therefore, the accuracy, completeness, and scientificity of data will inevitably affect the effectiveness of information technology applications, and only scientific management can ensure the accuracy and completeness of data.

2. Improve functional departments and management systems

Due to the need for specialized departments to implement the data management function, a dedicated data management leadership group and data management (processing) department should be established to assign data supervision responsibilities to the data management department. The data management department will centrally manage and monitor data, and relevant responsible departments will cooperate. Each unit will also set up corresponding data processing positions accordingly. Then formulate and issue the "Data Management Measures" and the "Interim Measures for Accountability of Data Management", clarifying the scope of responsibilities, work procedures, monitoring content, assessment rewards and punishments of the data management department, establishing systems for data notification, training, and other related measures for information collection, review, input, analysis and comparison, and information transmission, so as to gradu-

ally standardize data supervision and application work.

3.Improve the effectiveness evaluation mechanism

Adhere to user orientation, demand orientation, and effectiveness orientation, and rely on the National Health Information Platform to promote the evaluation of the effectiveness of information system applications. Build a system application effectiveness evaluation system, give full play to the "baton" role of evaluation, promote the improvement of information system application effectiveness as an important part of promoting government information resource sharing management and government information System integration sharing, comprehensively improve the ability of information system data analysis and information sharing, and build a working mechanism for system co construction, business collaboration, and resource sharing of all departments.

4.Open and diverse operating modes

Strengthen cross regional collaborative cooperation. Strengthen the integration of resources and mechanisms with more information-based regions and enterprises such as Shanghai, Shenzhen, Beijing, and Suzhou, deepen cooperation levels, expand cooperation areas, and build a cross regional cooperation and interaction system with complementary advantages and supporting cooperation. When one's own funds cannot be guaranteed, utilize resources for assets, industries for funds, and diversify the model to ensure that the platform has sufficient manpower and capital investment for sustainable development.

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