

¹Mingxin Xu^{2,*}Longgui Zhen³Shuang Tan

Big Data Model for Third-party Stability Assessment of Major Decisions: Generation Logic and Path Construction



Abstract: - The role of digital and intelligent technology in social risk governance and assessment is increasingly prominent. However, existing research often focuses on the technical aspects of development, neglecting the synergy and integration between technology and administrative practices. To address this, the paper constructs a four-dimensional theoretical analysis framework based on collaborative governance theory, which includes “subject integration, object unification, relationship coupling, and function complementation.” This framework is applied in a case study to analyze the generation logic and pathway construction of the third-party stability assessment the “big data” model adopted by City A. The study concludes that the dominant role of administrative efficiency is core, the supportive role of technological empowerment is key, and the participatory role of social forces is essential in building the pathway. These findings provide empirical support for the digital construction of major decision-making third-party stability assessment nationwide. They offer new perspectives to enhance governance efficiency and contribute to the ongoing improvement and high-quality development of major decision-making processes in social stability risk governance and assessment.

Keywords: Major Decision-making(MDM), Third-party Assessment(TPA), Collaborative Governance(CG), Big Data(BD), Technological Empowerment(TE).

I. PROBLEM FORMULATION AND LITERATURE REVIEW

The social stability risk assessment of major decision-making (hereinafter referred to as “Stability Assessment”) is an important institutional tool for China to prevent and resolve various social stability risks at their source, improve the efficiency of social governance, and promote democratic and scientific decision-making. The Third-party stability assessment is highly regarded by all sectors of society for their objectivity, independence, and professionalism, effectively addressing the shortcomings of closed-door and self-assessments. In response, the academic community has engaged in in-depth discussions based on Western concepts such as “Social Impact Assessment,” focusing on the development and effectiveness of the third-party stability assessment system, problematic issues, and policy recommendations.

In recent years, the development of global artificial intelligence technology has made rapid progress. The interaction and integration of modern technologies such as big data intelligence, artificial intelligence, cloud computing, and blockchain have promoted the entry of public governance into the digital and intelligent era. Technology enablement has become an inevitable trend in the modernization of national governance systems and capabilities[1]. At present, the Chinese government has repeatedly stressed that “it is necessary to strengthen the combination of artificial intelligence and social governance, develop artificial intelligence systems suitable for government services and decision-making, strengthen the integration of government information resources and precise prediction of public needs, and use artificial intelligence to improve the level of public services and social governance.” The concept and technological progress undoubtedly bring new opportunities to improve the quality and efficiency of social stability risk management. However, in practice, the driving force and performance of digital intelligence empowerment are obviously insufficient, and even “technological paradox” appears. Scholars from the academic community have paid attention to this phenomenon and conducted preliminary discussions on various issues such as the necessity of big data enabling decision-making risk assessment, the platform design of “evidence-based” evaluation, construction paths, and avoidance of legal risks.

The existing research has provided the foundation and laid the groundwork for this article, while leaving room for further exploration. First, from the content level, there is more attention paid to “digital embedding”[2] and less attention paid to “digital intelligence empowerment”. Existing research is limited to analyzing the supporting role of large-scale, multi-modal data for stability assessment from a technical perspective, ignoring how technology and governance can achieve the integration of government efficiency and technological empowerment through overall

¹ China University of Mining and Technology (Beijing), Beijing, China; Yuncheng Vocational and Technical University, Yuncheng, Shanxi, China

² China University of Mining and Technology (Beijing), Beijing, China

³ China University of Mining and Technology (Beijing), Beijing, China

*Corresponding author: Longgui Zhen

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changes in resource digitization, business digitization, organizational intelligence, and other dimensions, thereby improving risk governance effectiveness. Second, at the process level, There is more attention paid to the evaluation of a certain link, but less attention paid to the whole cycle of stability assessment. Most of the existing studies focus on the application of digital technology in the risk identification stage of the stability assessment process, and there is a lack of research and discussion on the combination of information technology with the whole cycle of stability assessment, which is not conducive to stimulating the systematic empowerment of digital intelligence technology for the whole cycle of risk management.

In view of the above deficiencies, this study is based on systematic thinking, applies the theory of collaborative governance, and from the perspective of digital intelligence enabling third-party stability assessment, takes the typical case of City A in Province H to conduct a deep excavation and analysis of the “big data” model of third-party stability assessment for major decisions in the city. The aim is to identify the model’s generation logic and construction pathway, hoping to respond to challenges such as the adaptability dilemma and reflexive risks of digital empowerment. The goal is to enhance governance through intelligence, improve the governance effectiveness of third-party stability assessment for significant decisions, and support the modernization of the national governance system and capabilities.

II. ANALYTICAL FRAMEWORK: THEORETICAL CONSTRUCTION OF THE “BIG DATA” MODEL OF THIRD-PARTY STABILITY ASSESSMENT UNDER COLLABORATIVE GOVERNANCE

A. *Explanation of the Connotation of Collaborative Governance Theory*

Collaborative governance theory is a popular concept in the field of public administration, which is widely applied to various scenarios such as environmental governance, emergency management, government process reengineering, etc. It presents different development contexts in Chinese and Western contexts, and is endowed with different theoretical meanings.

1) *Theory of collaborative governance in the Western context:* The definition of collaborative governance given by Ansell and Gash, two western scholars, is widely recognized and quoted. They believe that collaborative governance is a kind of governance arrangement, which involves direct dialogue between single or multiple public institutions and non-state stakeholders in the formal, consensus-oriented, consultative collective decision-making process, aiming to formulate or implement public policies or manage public projects or assets. Containing six elements: government-sponsored forum, the forum participants must include non-state actors, participants must directly participate in the decision-making process, the forum organization must be formal and collective dialogue, the forum aims to make decisions based on consensus, and the forum focuses on public policy or public management[3].

American scholar Donahue defines collaborative governance as: the pursuit of officially selected public goals through joint efforts with producers outside the government and the sharing of discretion with them[4]. Culpepper and Chi define it from the perspective of equality among the various collaborative agents. Culpepper believes that collaborative governance refers to the daily interaction between government and non-government actors in a given policy area, and in this process, the government does not have monopolistic power in defining the problem and selecting implementation methods[5]. Chi believes that collaborative governance refers to the situation where participants cooperate as equal partners, and therefore, in collaborative governance, each participant needs to give up some independence or autonomy through formal or informal agreements[6].

Mark T. Imperia defines collaborative governance from the perspective of individual and organizational autonomy as “a way to guide, control, and coordinate individuals and organizations with varying degrees of autonomy to achieve common goals.”[7] Zadek highlighted the importance of rules in the definition: collaborative governance refers to a process where multiple actors from public and private institutions work together to formulate, implement, and manage rules, and provide long-term solutions to common challenges. Scholars such as John Calanni, Cooper, Bryer, and Meek emphasize the participation of non-governmental organizations and citizens in the decision-making process in collaborative governance. Calanni views collaborative governance as a governance strategy that brings together representatives from industry, government agencies, non-governmental organizations, academia, and the general public to discuss complex social issues and ultimately reach a consensus through negotiation [8]. Cooper et al. believe that collaborative governance refers to the rational negotiation between citizens and other residents with representatives of public institutions, and this negotiation has gradually been embedded into the work of local governance[9].

Bingham believed that in a broad sense, collaborative governance should cover four points: First, all actors who could potentially become collaborative partners, including the public, state and local government agencies, tribes,

non-governmental organizations, commercial organizations, and other non-governmental stakeholders, should be included in the collaborative subject. Second, the collaborative object should cover all the work of federal agencies in the policy process, and the policy process is also defined as all relevant acts of the government as an executing agency related to policy development, execution and implementation. Thirdly, it should cover all the ways, methods and processes based on consultation and consensus, such as citizen participation, dialogue, public consultation, deliberative democracy, public consultation, multi-party coordination, collaborative public management, dispute resolution and communication. Fourthly, the communication methods should cover face-to-face communication and online communication[10]. Morse and Stephens go further, believing that collaborative governance is an umbrella concept that includes intergovernmental collaboration, regional collaboration, cross-sectoral partnerships, public service networks, consensus-building, and public participation[11].

2) *The theory of collaborative governance in the Chinese context:* After the 1990s, the concept of “collaborative governance” began to sprout in China, and some scholars attempted to use the concept of “collaborative governance” to explain and answer Chinese problems. In the context of China, there are two practical conceptual interpretations of the generation of collaborative governance theory.

Firstly, the origin theory of complex science represented by synergetics and governance theory. It believes that the theory of collaborative governance comes from the absorption and integration of the concept of “collaboration” in complex science to “governance”. This theory of origin belongs to the self-construction of domestic scholars, and it is still being used today, and has formed a strong academic influence. In 1990, Qin et al. proposed to build a two-way collaborative governance economic environment for macro-control and micro-aspects in response to the reform of the urban economic system[12], which opened the precedent of “governance” absorbing “collaboration” and was also the earliest scholar in China to propose “collaborative governance”. Based on this, some scholars continue to embed governance theory into synergetics, promoting the understanding of “coordination” in the science of complexity, and presenting the basic outline of collaborative governance theory: Collaborative governance is a governance model in which multiple subsystems such as governments, non-governmental organizations, enterprises, and individual citizens use “non-linear mutual coordination among elements or subsystems in the system” [13] to “promote the coordination and integration of chaotic and disordered states in a unified social governance organization structure”[14] to “achieve an effect where the whole is greater than the sum of its parts.”[15] And it has formed a model framework of social coordination mechanism, including social coordination formation mechanism, social coordination implementation mechanism, and social coordination evaluation supervision mechanism[16]. Some scholars regard collaborative governance as a new trend of public affairs governance and treat it as the third generation of good governance theory[17]. They believe that it can “create conditions to ensure social order and collective action, thus providing methods and approaches for achieving good governance”[18]. Obviously, the theory of “collaborative governance” based on synergetics pays more attention to the dynamic construction of governance methods and means in the process of governance.

Second, the origin of the translation and diffusion of the concept of international collaborative governance to the domestic context. Scholars were inspired by the concept of international “collaborative governance”, absorbed the spiritual core of “cooperation”, “consultative dialogue”, and “equal participant status” in international collaborative governance, and began to construct the concept of “collaborative governance” in the Chinese context under the influence of a series of ideas such as collaborative public management, network governance, and private sector collaborative governance in the West. This is regarded as a translation of the theory of international collaborative governance. In 2012, scholars represented by Yu and Ren translated the international concept of “collaborative governance” into the Chinese governance context, constructed an analytical framework for collaborative governance, and constructed the subject, relationship and function of the concept of “collaborative governance”. It proposed that “the social collaborative governance mechanism refers to the government’s need for governance, through the exertion of leading role, building institutionalized communication channels and participation platforms, strengthening support and cultivation of society, and working with society to play the role of society in independent governance, participation in services, collaborative management and other aspects.”[19] It provided an opportunity for the translation and diffusion of the concept of “collaborative governance”. Some scholars have conducted further research on this basis and proposed that collaborative governance is a governance process by which the government “acts in line with existing laws and regulations and plays a leading role to maximize public interests for governance needs”[20].

Today, with the expansion of modernity brought by the modernization of the national governance system and governance capacity, the value orientation of the concept of “collaborative governance” in the two domestic contexts is showing a trend of complexity, presenting new characteristics and connotations, and promoting the

sinicization and localization of collaborative governance theory. In addition to the above two theories of origin, there are also scholars in China who have analyzed and discussed the connotations and denotations of collaborative governance, coordinated governance, cooperative governance, and consultative governance, as well as the relationships among them. It is believed that collaborative governance is a new governance paradigm, which integrates the interest balance mechanism and risk communication mechanism of consultative governance, as well as the supervision and restraint mechanism and legal guarantee mechanism of collaborative governance. Based on trust and responsibility, it advocates cooperative governance with autonomous and equal participation, which is a breakthrough from top-down expert guidance and government-centered paradigm[21], a sublimation and development of collaborative governance, and also the destination of social governance transformation[22].

B. Construction of Analytical Framework Based on Collaborative Governance Theory

Incorporating the different understandings from the Chinese and Western contexts, this study absorbs and integrates the four elements of collaborative governance proposed by Bingham, namely “subject, object, extension, and method”, and the three elements of collaborative governance constructed by Yu and Ren, namely “subject, relationship, and function”. Based on these elements, we construct a four-dimensional collaborative governance analysis framework for third-party stability assessment the “big data” model, which includes “subject, object, relationship, and function” (Figure 1).

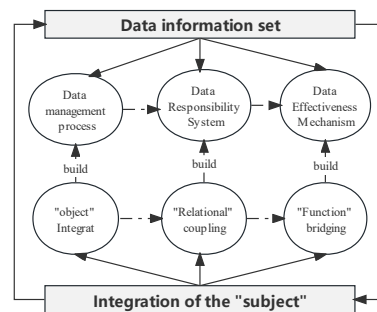


Figure 1: Analysis Framework of Collaborative Governance of Third-party Stability Assessment “Big Data” Model

Source of the chart: Prepared by the author.

1) “Subject” integration—construction of data information aggregation: Standing in the field of public management, one of the core meanings of collaborative governance theory includes that multiple agents including the government, non-governmental organizations, enterprises, individual citizens, etc., collaborate to govern public affairs and solve public problems. Major decisions, as public decisions involving a wide range of issues, must cover a “pluralistic” subject. The opinions, suggestions, viewpoints, and cognition of these subjects are integrated to form the information set in the “big data” model, which is the basis for the stability evaluation of the “big data” model. Therefore, the “big data” model of third-party stability evaluation for major decision-making should first identify the collaborative “subjects”, and then build the object, relationship and function on this basis.

2) “Object” integration—construction of the data management process: Collaborative object is the collection of all work contents and related behaviors of each subject in the process of policy implementation. In the third-party stability assessment of major decisions, the “object” of collaborative governance refers to all the work contents and behaviors of the third-party stability assessment’s diverse “subjects” in all links and specific steps of the stability assessment. These behaviors generate various types of data, which are the “traces” of the work process of different subjects and also the basis for the stability assessment management of the government authority. Therefore, the construction process of collaborative “object” is a unified process of the work content and related behaviors of stability assessment, as well as a management process of data collection, storage, processing, and application.

3) “Relationship” coupling—construction of data responsibility system: Collaborative governance theory believes that in the process of governance, actors are endowed with equal cooperative relationships with different roles, identities, responsibilities and powers. For example, government departments, as policy makers and organizers of policy implementation, play a coordinating and overall planning role. Non-governmental organizations, enterprises and the general public, as participants, are also the main bodies of social governance and play their unique roles in it, finally forming a harmonious, orderly, equal and efficient public governance network and collaborative governance model. In the third-party stability assessment, the integrated multi-agent should also have a clear definition of responsibility, right and interest, and achieve the coupling of interest relationship and

value targets. By defining the coupling network of collaborative “relationships”, its data responsibility system is constructed to achieve an equal and collaborative governance pattern.

4) *“Functional” bridging—construction of data efficiency mechanism*: Collaboration is a process where organizations or individuals with diverse interests come together for common goals. Collaborative governance is a circular process of “negotiation - commitment - execution - evaluation”[23]. Every process “must be closely centered around shared goals and objectives”[24]. The value and function of collaborative governance lies in achieving common goals and solving common problems with more effective means and methods[25]. The purpose of third-party stability assessment for major decisions is to discover factors that may cause social instability risks ahead of time and achieve source control and democratic decision-making. In the “big data” mode of third-party stability assessment, the achievement of stability assessment goals requires the full play of the bridging role of “functions” on the basis of data aggregation, data management, and the formation of a responsibility system, and the collaborative construction of accountability and effectiveness mechanisms.

III. RESEARCH METHODOLOGY AND CASE INTRODUCTION

A. Selection of Case Studies

The purpose of this paper is to explore the phenomenon of “big data” mode in the third-party stability evaluation of City A, which is currently lacking in academic refinement and analysis. Therefore, this paper adopts the case study method. Because case studies are often targeted at existing theories, they can achieve a “type of representativeness”[26] through “analytical generalization” and “comparative strategies” to exhaust the characteristics of a type of phenomenon[27]. It can also describe the causal mechanism hidden behind the phenomenon with rich story details[28]. The reason why the reform and practice of stability assessment system in City A is selected as a case is that:

1) *The typicality and adaptability of the case meet the “theoretical relevance” requirements of case studies*. The research focus of this paper is the role and relationship of multiple actors in the construction and practice of the “big data” stability assessment model in the third-party stability assessment, as well as the functions of different relationships. City A proposed the work idea of “strengthening information construction to improve the level of social risk governance” as early as 2016, and began relevant research and integration of relevant policies. Especially after clarifying the work idea of “strengthening the intelligence level of stability assessment to promote the continuous improvement of stability assessment quality” in 2020, the city has further strengthened the construction of the “social risk linkage management system”. The leaders at higher levels and the local leaders have repeatedly emphasized the need to “fully utilize the social risk linkage management system to improve the efficiency of social risk assessment and governance” during inspections and speeches. Therefore, by taking City A as a typical case to analyze the construction path of its third-party stability assessment “big data” model, we can reveal the relationship between the subject and the object in the analytical framework, as well as the functional mechanism contained in it. This is consistent with the theoretical sampling principle of case studies.

2) *The completeness and richness of the cases can meet the “empirical saturation” needs of case studies*. The experience of generating logic and building path of the “big data” model of third-party stability assessment for major decisions involves a large number of informal behaviors, which require diachronic, systematic and immersive observation to obtain rich materials. The author’s tracking of city A is in perfect accordance with this requirement. What’s more, city A’s stable informatization practice can be traced back to 2016, and the length of the time chain has enriched the thickness of the experience materials.

B. Case Introduction and Data Sources

1) *Case introduction*: City A is located in the east of Province H, with 5 districts, 3 counties and 1 county-level city under its jurisdiction. It covers an area of 11,200 square kilometers and has a permanent population of about 3.9 million. It is one of the first eight key industrial cities established after the founding of the People’s Republic of China. It is the only ordinary prefecture-level city that has two national advanced manufacturing clusters selected at the same time, ranking 36th on the 2022 Top 100 Cities of Advanced Manufacturing list. It can be seen that there are many major projects in A city, which is also one of the reasons why the city attaches great importance to the stability evaluation work. The road of information-based social governance and stability evaluation of the “big data” model in A city can be divided into three stages.

a) *2016-2017: Field research and idea determination*: In 2016, the municipal government of City A focused on the main responsibility of preventing risks and resolving conflicts, and put forward the work idea of “strengthening information construction and improving the level of social risk governance”. Led by the leaders of

relevant departments, teams were organized to successively carry out on-the-spot research on “information construction experience” in Nanjing, Guiyang, Nantong and other places. Based on the integration of the relevant policies of the country, provinces and cities, the reform path of taking information construction as the breakthrough to improve the effectiveness of social grass-roots governance has been further clarified.

b) *2018-2020: Platform construction and promotion:* According to the spirit of “accelerating the modernization of urban social governance” proposed by the Chinese government. Based on the research, A city established the “Information Application Platform” construction project in the city’s comprehensive governance center in 2018, focusing on the design and development of the “Social Risk Linked Management System”. In 2019, it applied for the first batch of cities for modernization pilot of urban social governance. In 2020, City A got the qualification of being one of the first cities to pilot the modernization of urban social governance in China, and the “Social Risk Linked Management System” started trial operation.

c) *2021 - Present: System construction and model formation:* City A focuses on the main responsibility of risk prevention and conflict resolution in social governance within the city, with a focus on the core role of “risk assessment”, the main function of “linkage management”, and the goal of building a “risk closed-loop mechanism”. Integrate the basic information data resources such as grid centers, the “N-in-1” command center for risk prevention and control of social governance within the city, the “one-stop” conflict resolution center, and the “peaceful map” integrated social governance information system. It has built a command and dispatch information platform for social governance (safety construction) in A city, and constructed a comprehensive governance information platform that integrates “command and dispatch, data aggregation, risk prevention and control, decision-making research and judgment, diversified co-governance, supervision and evaluation”, covering the four levels of city, county (city, district), township (street), and village (community). The stability assessment in City A has formed a “1+2+N” third-party stability assessment work system and a “big data” model with “1: adhering to the main line of assessment quality”, “2: synchronizing standardized construction of online stability assessment management and offline stability assessment implementation”, and “N: diverse measures advancing in parallel”, becoming a brand of the municipal political and legal work.

2) *Data source:* The data for this study come from three sources (Table 1):

Table 1: Case Data Source and Specific Content

Data Source	data content			
	interviewee	Time	Method	Coding
First-hand interview data	Responsible person for stability assessment work in the municipal government department of City A	2023.04.25	Individual Interview	ZF-20230425-01
	Responsible person for stability assessment work in the municipal government department of City A	2023.05.27	Individual interview	ZF-20230527-01
	Relevant personnel of stability assessment work in the municipal government departments of City A, and relevant personnel of third-party stability assessment organizations	2023.08.25	Group discussion	JT-20230825-01/08
	Person in charge of stability assessment work of the entrusted unit for the project in City A	2023.08.26	Individual interview	WT-20230826-01
	Stability assessment expert of City A	2023.08.26	individual interview	ZJ-20230826-02
	Responsible person for stability assessment work in the municipal government department of City A	2023.11.17	individual interview	ZF-20231117-01
	Responsible person of the third-party stability assessment organization in City A	2023.11.18	individual interview	ZZ-20231118-01
participatory observation	Participate in the daily management and expert review process of the stability assessment in City A as a member, involving stability assessment work conferences, daily inspections, expert reviews, and other work.			
Collection of secondary data	Relevant policy documents; speeches, work reports, meeting records, special reports, stability assessment reports, etc. of government or departmental leaders; various work plans, research reports, etc. of relevant government departments; relevant local news reports, etc.			

Source of the chart: Prepared by the author.

a) *Depth interviews.* The research team conducted semi-structured interviews with third-party stability assessment government regulatory agencies, third-party stability assessment organizations, relevant experts, and project entrusting units in City A from April 2023 to December 2023 via face-to-face, telephone, and online methods. Approximately 53,000 words of interview transcripts were obtained and coded.

b) *Participatory observation.* Members of the research team participated in the organized stability evaluation work conference, daily inspections, expert reviews, and other work in City A during the on-site visit, and formed several observation notes.

c) *Secondary data.* Collected relevant policy documents, meeting records, summary reports, special reports, stability assessment reports, and other materials related to the third-party stability assessment in City A, as well as relevant news reports on government portal websites, China National Knowledge Infrastructure (CNKI),

WeChat and Weibo public numbers. Through the above three approaches, a “triangular mutual verification” of data and materials was formed, ensuring the objectivity and scientific nature of the research conclusions.

IV. CASE PRESENTATION: PROCESS PRACTICE OF THE “BIG DATA” MODEL OF THIRD-PARTY STABILITY ASSESSMENT

According to the research framework, this part takes the subject as the key element of the big data model, combines it with the object, relationship, and function, roughly outlines the construction process and practical profile of the third stability assessment the big data model of City A from the three dimensions of subject-object, subject-relationship, and subject-function in a narrative way, and sorts out its path innovation characteristics through feature extraction.

A. Subject-Object Dimension: Collaborative Effort by the Subject to Establish a Data Pool for Promoting Standardized Development

Determine the prerequisites for the subjects of collaboration to achieve collaborative governance. Only by the cooperation of multiple subjects can the governance goal be efficiently achieved. The first step of building the “big data” model of the third-party stability assessment in City A is to clarify the source of the “big data” - the relevant parties of the third-party stability assessment. On this basis, the integration and construction of “object” are carried out, and the interactive transformation from subject to object is realized, laying the “big data” foundation for collaborative governance.

The first is to define the subject by regulations. After clarifying the work idea of promoting stability assessment through informatization, the city A did not rush to make radical reforms. Instead, it synchronizes the construction of information platform and institutional norms, fully considers the landing and implementation of the system in the information platform, and considers how to realize it in the information system when formulating policies and institutions.

“When introducing the third-party stability evaluation implementation measures for our city, we need to determine more clear subjects according to national policies, and match the functional modules of the information system with them.” (Interview Record JT-20230825-01)

After full investigation and comprehensive consideration, A City has identified the main parties for the third-party stability assessment as follows: major decision-making entrusting units, stability assessment government departments, discipline inspection and supervision departments, third-party stability assessment organizations, local governments, risk response units, experts, directly interested stakeholders, media, and the public. There are nine parties in total.

“As of now, the total number of users on our information system platform is 145, including 33 third-party stability assessment organizations and 155 stability assessment practitioners. A total of 272 stability assessment projects have been entered, with 643 project risk points.” (Interview Record ZF-20231117-01)

Then, the information system links different modules, collects and mines the cognition, behavior, and interest demands of different subjects, and becomes the information capital of the “big data” model for the third-party stability evaluation in City A.

The second is to use the process to build the object. Based on the determination of the subject, City A reconstructed the process of third-party stability assessment for major decisions in the city according to the above logic and thinking. Four links including “before assessment, during assessment, after assessment, and post-assessment” are set up, which are further divided into 13 steps (Figure 2). Define the subject behavior, collaborative effectiveness, and key nodes in the process execution to ensure that each link and step generates “big data” in the information system, forming a data pool. These data are the “traces” of different subjects in the process of stability assessment work, which constitute the “object” of the “big data” model of the third-party stability assessment in City A.

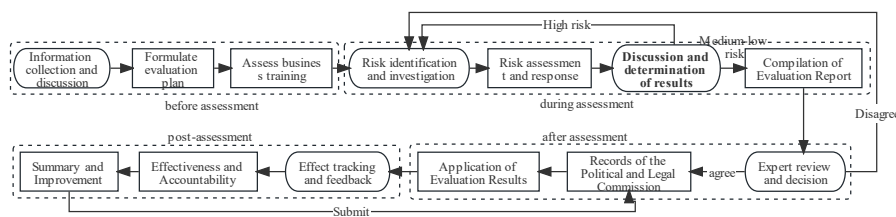


Figure 2: Work Process Chart of the “Big Data” Mode for Third-party Stability Assessment
 Source of the chart: Prepared by the author.

From this, we can deduce **Proposition 1**: The government administrative leadership is an important factor in the generation of good third-party stability assessment effectiveness. The government defines the subjects of stability assessment clearly by combining the “rigid constraints” of regulations with the “flexible constraints” of information systems. The data generated by the subjects is then transformed to form the “objects” of collaborative governance, which is the basis for the good performance of the third-party stability assessment the “big data” model.

B. Subject-relationship Dimension: Subject Collaboration, Responsibility Definition to Achieve Effective Data Management

In the collaborative governance system, the government, market, society and citizens are in a mutually dependent collaborative network (relationship) and constantly seeking contact and interaction. Among them, the government is the “construction subject”[29] of the governance system, and “relationship” is the “lubricant” for communication, interaction, and collaboration among subjects. However, the coexistence of multiple subjects may easily lead to overlapping responsibilities. If the definition of their responsibilities is unclear, it will result in mutual buck-passing and improper coordination, which in turn will lead to “responsibility being left unfulfilled”[30] and hinder the implementation of policies and the operation of systems. The “big data” model of the third-party stability evaluation in City A effectively avoids the occurrence of such situations through two measures.

First, the definition and confirmation of responsibilities based on relationships. When A city determines the different subjects in stability assessment, it also identifies the responsibilities of each subject based on the “relationships” of dialogue and interaction among these subjects in stability assessment. It then carries out “behavioral empowerment” for policy implementation and “functional empowerment” for information systems.

“According to the roles and responsibilities of different entities in different stages of stability assessments, the main participants and secondary participants in third-party stability assessments of major decisions are defined. The main participants take primary responsibility, while the secondary participants take secondary responsibility.”(Interview record JT-20230825-02)

For example, in the “pre-evaluation” stage, the main participants are the stability evaluation organization and the local government, while the secondary participants are the commissioning unit and the stability evaluation supervision department. However, in the “post-evaluation” stage, the supervision department, stability evaluation organization, commissioning unit, risk response unit, and discipline inspection and supervision department are the main participants, and experts, directly interested groups, media and other members of the public, as well as the local government are the secondary participants.

Second, data rights and management based on power. Based on the definition of responsibilities and the determination of property rights in different links, City A has determined the operational authority in the information system.

“Different subjects have different functional modules and operating systems on the information platform. For example, our project commissioning unit has to register on the system from bidding, and can view the materials uploaded by third parties in different stages to understand the progress and play a supervisory role.”(Interview record WT-20230826-01)

Authority allocation based on power not only enables the stability assessment supervision department and the project entrusting unit to understand and grasp the stability assessment status at any time. Through the effective management of relevant data on the platform information, it is easy for relevant parties, especially government regulatory departments, stability assessment organizations, and risk response units, to make decision adjustments, promote the implementation of policies, and avoid the emergence of “gray areas” to a certain extent through the disclosure of data to the media and the public. This has played a positive role in building the government’s image.

From this, we draw **Proposition 2**: The clear definition of responsibilities based on the “relationship” of different parties is actually a process of empowerment and accountability by the government through transparency and openness of information technology in the process of stability assessment. It is to avoid the space of discretionary power with data facts, effectively prevent the occurrence of rent-seeking of power, and improve the credibility of the government.

C. Subject-function Dimension: Subject Coordination, Realizing Accountability and Effectiveness through Supervision Based on Evidence

The essence of collaborative governance or cooperative governance is that multiple subjects jointly govern social problems or provide public services. Improving the efficiency of public governance is the ultimate goal, and also the functional positioning of information technology in government management. Therefore, some researchers

in the field of collaborative governance theory advocate that, besides the government, market organizations, social organizations, and citizens can equally express their interest demands, participate in decision-making, and form partnerships to jointly solve public problems. To ensure the effective implementation of the policy of stability assessment system in all aspects and avoid the “chicken ribs” of information system, City A fully utilizes the role of data and effectively avoids the separation of the “big data” and “management”.

Firstly, we should pay attention to the dynamic process supervision. City A fully utilizes the “social risk management linkage system” to integrate the stability assessment with social risk management in the city. Actually, *“it’s to implement the relevant spirit of national stability assessment into modularized procedures through informatization.”* (Interview Record ZF-20230425-01) The system links all relevant units involved in the process of stability assessment and automatically assigns risk resolution tasks to the corresponding functional departments. The regulatory authorities carry out real-time accountability in the form of “weekly Bulletin” for units that fail to complete the “dispatch tasks” or encounter problems during the process, according to the feedback of the information system, which promotes the standardization and institutionalization of stability assessment.

The second is to strengthen the post-incident accountability of authority. The stability evaluation supervision department and discipline inspection and supervision department in City A have linked up to conduct real-time monitoring of the stability evaluation process and the application of its results, and also added the responsibility tracing for the “post-evaluation” link.

“When evaluating advanced individuals or organizations, they must undergo a review by the Political and Legal Commission. Points will be deducted in terms of safety construction due to issues such as letters and visits, group incidents, negative public opinion, etc., that arise from stability assessments. This is just the lightest penalty. If a major incident occurs, it is necessary to request supervision departments to investigate and deal with it. We have previously held accountable once, so now all departments are paying more attention to stability assessments.” (Interview record ZF-20230527-01)

Moreover, this form of tracing responsibilities based on evidence not only enhances the attention paid by the major decision-making entrusted units and relevant risk response units to stability assessment, also forced the stability evaluation organizations to strengthen process management and improve the quality of stability evaluation by “practicing internal skills”.

“The previous stability assessment process was indeed somewhat irregular, but now everyone has become aware of it, because all process materials need to be filed on the system, which is equivalent to leaving evidence. If something goes wrong, there will be accountability.” (Interview record JT-20230825-05)

Thereby, it promoted the overall optimization and improvement of the cognitive environment of A city’s stability assessment.

From this, we can draw **Proposition 3**: Relying on information technology, the government gives full play to the function of “data performance inquiry”, achieves subject linkage, combines the “soft” process supervision with the “hard” post-responsibility tracing, establishes the “supervision + accountability” inquiry mechanism, and effectively achieves the “functional positioning” of the third-party stability assessment collaborative governance.

V. CONCLUSION AND DISCUSSION: PATH ANALYSIS OF THIRD-PARTY STABILITY EVALUATION THE “BIG DATA” MODEL

Through the deep description of the case of the “big data” mode of the third-party stability assessment in City A, it can be seen that the good stability assessment performance of the third party under this mode relies more on the effective application of digital intelligence technology driven by the local government. It is the “double empowerment” of technology empowerment and administrative efficiency, which is a vivid embodiment of the digitization of resources, digitization of business, and intellectualization of organizations. The formation of this model has certain basic conditions and adaptability in real situations.

A. *The Leading Role of Administrative Efficiency is the Core*

In this model, the driving force of the government runs through all the time, reflecting the government’s role as a “constructive subject” in collaborative governance. In the case, the government regulatory department for stability evaluation of City A played a leading role. On the one hand, the simultaneous development of stability assessment system construction and information construction not only ensures the legitimacy of stability assessment, but also guarantees that the developers of the stability assessment system are able to perform their duties effectively. At the same time, it is also an advocate and promoter of the construction and application of information platforms. It builds a “data pool” to integrate and stabilize relevant information for evaluation. To

define responsibilities based on relationships and hold accountable according to evidence bridges the gap in the accountability mechanism for unclear definitions of responsibilities and buck-passing. The function of “data effectiveness inquiry” not only reflects the management ability and level of the A Municipal Government towards data, It also achieved the goal of using administrative power to ensure the role of digital intelligence technology in social risk management, which is the core of the formation of the “big data” model of stability assessment.

B. The Supporting Role of Technology Enablement is Key

The integration of technology-driven data resources and government administrative system has become an inevitable trend to promote the modernization of national governance system and governance capacity. Digital technology has a two-way empowering value for society and government in social governance, but it needs to effectively synergize the relationship between digital technology and bureaucratic systems and balance the relationships between multiple actors. In the case, the municipal government of City A fully recognized the value and significance of digital technology and applied it to the field of stability assessment and social risk governance, achieving good governance efficiency. This is a key factor for the formation of this model.

C. The Participation of Social Forces is the Guarantee

The emergence of objects, definition of relations, and realization of functions in collaborative governance cannot be achieved by a single government entity alone. It requires the active participation of experts, third-party stability evaluation organizations, directly interested stakeholders, media, social public and other multiple social forces to form a joint force of governance, so as to generate effective “big data”. We should give full play to the role of data integration, relationship coupling, and mechanism bridging, and achieve the effective integration of dynamic, procedural, digital, serious, authoritative, and institutional stability assessments. It can be seen that multiple social forces have played an important role in ensuring the effectiveness of collaborative governance.

D. Limitations and Prospects of the Study

There are still many limitations in this paper, which is also the space for the development of future research theory: First, in terms of research methods, future research needs to incorporate comparative cases and quantitative research to conduct more precise measurements of the role of digital technology in the third-party stability assessment of major decisions. Secondly, in terms of theoretical construction, it is necessary to strengthen the research on the influencing factors and specific types of the formation of the “big data” model of third-party stability evaluation in the future, so as to answer questions such as the differences in the implementation of stability evaluation systems in different regions, and thus better guide stability evaluation practice with theory. In addition, due to the limited time of research, the research conclusion of this paper is based on the phased observation of cases. Future research can include longer-term studies to capture the historical changes in the impact of digital technology on the effectiveness of third-party stability assessment throughout the entire cycle.

ACKNOWLEDGMENT

This paper was supported by “Optimal Mode of Risk Communication in Public Health Emergencies from the Perspectives of Both Government and Public: Current Situation Assessment and Optimization Strategies(22GLB015)”.

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