Grounded Theory-Based Local Legislative Strategies for Data Element Rights Confirmation in China and Their Adjustments

Authors: Wen Yuheng, Fu Zhangyi, Wen Yuheng

Date: 2023-02-11T00:00:00+00:00

Abstract

【Purpose/Significance】 Research on legislative strategies for data element rights confirmation facilitates the optimization of data rights confirmation legislation by legislators and enables other stakeholders to comprehend the key points of local legislation on data rights confirmation. 【Method/Process】 This study examines 21 local data regulations related to data element rights confirmation in China, employing grounded theory methodology to analyze the attitude, concept, object, attributes, path, content, boundaries, subjects, and attribution concerning rights confirmation. 【Results/Conclusions】 Local legislative strategies for data rights confirmation in China have demonstrated a pronounced orientation toward data rights confirmation, employing "data rights and interests" as the conceptual expression, prioritizing property attributes over personality attributes, promoting data circulation and utilization through bidirectional rights confirmation, and doubly demarcating boundaries to constrain rights exercise. However, the scope of data rights objects remains ambiguous, classification and grading are inadequate, and aspects such as rights subjects, attribution, and protection paths lack specificity. It is recommended that data rights confirmation be adjusted across five dimensions: expression strategies for attitude and concept, optimization strategies for objects, selection strategies for attributes and protection paths, expansion strategies for content and boundaries, and determination strategies for subjects and attribution.

Full Text

Local Legislation Strategy and Adjustment for Data Rights Confirmation in China: An Analysis of 21 Provincial and Municipal Data Regulations

Wen Yuheng[1],[2] **Fu Zhangyi**[1]
[1]School of Intellectual Property, Xiangtan University, Xiangtan 411105
[2]Hunan Data Governance and Smart Judicial Research Center, Xiangtan 411105

Abstract:
[Purpose/Significance] Studying the legislative strategy for data rights confirmation helps legislators optimize data rights legislation and enables stakeholders to understand key aspects of local data rights legislation. [Method/Process] Using 21 local data regulations related to data rights confirmation in China as samples, this study employs grounded theory methodology to analyze the attitude, concept, object, attribute, path, content, boundary, subject, and attribution of rights confirmation. [Results/Conclusion] China' s local legislative strategy for data rights confirmation has demonstrated a clear tendency toward rights confirmation, using "data rights and interests" as its conceptual expression, emphasizing property attributes over personality attributes, promoting data circulation and utilization through bidirectional rights confirmation, and doubly delineating boundaries to limit rights exercise. However, the scope of data rights objects remains unclear, classification and grading are insufficient, and provisions regarding rights subjects, attribution, and protection paths lack specificity. It is recommended that data rights confirmation be adjusted in terms of attitude and conceptual expression strategies, object optimization strategies, attribute and protection path selection strategies, content and boundary expansion strategies, and subject and attribution determination strategies.

Keywords: data rights confirmation; data property rights; local legislation; legislative strategy; grounded theory

---

1. Introduction

In 2019, the *Decision of the Central Committee of the Communist Party of China on Upholding and Improving the System of Socialism with Chinese Characteristics and Promoting the Modernization of the National Governance System and Governance Capacity* proposed "improving the mechanism whereby production factors such as labor, capital, land, knowledge, technology, management, and data receive compensation according to their market-evaluated contributions."In 2020, the *Opinions of the Central Committee of the Communist Party of China and the State Council on Building a More Perfect Market-oriented Allocation System and Mechanism for Factors* proposed "researching and improving property rights characteristics based on the nature of data." In 2021, Vice Premier Liu He stated at the China 5G+Industrial Internet Conference that "research

should be advanced on data rights confirmation and classified and graded management." In 2022, the *Opinions of the Central Committee of the Communist Party of China and the State Council on Building a Data Basic System to Better Leverage the Role of Data Elements* required "establishing a data property rights system that protects rights and ensures compliant use." From establishing data' s status as a production factor, to researching and advancing data rights confirmation, to establishing a data property rights system, the importance and urgency of data rights confirmation (hereinafter referred to as "data rights confirmation") are evident. Although China' s relevant policies have addressed data rights confirmation, their specific content remains undefined. Under market economy conditions, data rights confirmation is a fundamental prerequisite for market mechanisms to function, resources to be optimally allocated, and data transactions to proceed in an orderly manner, effectively safeguarding the free circulation of data as a production factor. However, deficiencies or gaps in the legal guarantee of data rights confirmation mechanisms affect the marketization process of data elements, thereby hindering digital economic development. Consequently, research is urgently needed on the legislative strategy for China' s data rights confirmation mechanisms and whether adjustments are necessary.

2. Literature Review and Research Framework

Existing Chinese research on data rights confirmation understands the "rights" in data rights confirmation as encompassing concepts such as rights concept, rights attributes, rights objects, rights subjects, rights content, rights boundaries, rights attribution, and rights protection. Therefore, data rights confirmation refers to the process and state of determining these essential elements of data rights. Research has covered: (1) the concept of data rights confirmation, with Wen Yuheng arguing that "data property rights" is the most suitable meta-concept as it balances data security and data dividends while integrating personality rights and property rights approaches; (2) data rights attributes, with Xiao Dongmei and Wen Yuheng proposing that data rights possess dual attributes of personality rights and property rights, where data personality rights constitute a new type of personality right distinct from traditional privacy rights, and data property rights represent a new property right alongside intellectual property, real rights, and creditor' s rights; (3) data rights objects, with Wang Yulin and Gao Fuping arguing that big data has property attributes as information property and can thus serve as an object of information property rights; (4) data rights subjects, with Song Fangqing and Qiu Zijian contending that the rule-of-law governance of data element markets requires a balanced governance structure and scientific rights allocation, with a multi-subject structure comprising government, individuals, and enterprises being more realistic; (5) data rights content, with Wen Yuheng suggesting that users and enterprises should be respectively allocated data control rights and data operation rights, with users' control rights including refusal, portability, and deletion, and enterprises' operation rights including relative possession, production use, operational autonomy, and incremental property income rights, thereby balancing protection

and utilization; (6) data rights boundaries, with Yang Zhangbo and Wang Xinlei arguing that the fundamental reason for difficulty in defining rights boundaries lies in rapid technological development, and that big data rights boundaries should primarily follow efficiency principles while considering fairness; (7) data rights attribution, with Wang Dongfang arguing that the attribution of personal data rights and personal information rights and their legal interest protection objects should be clarified, with personal data rights as personality rights belonging to data generation subjects and personal information rights as property rights belonging to data processing subjects; and (8) data rights protection, with Wang Dong and Ye Xiongbiao proposing that data has different connotations at the carrier, symbol, and content levels, requiring differentiated protection approaches combining public and private law with rights-based and conduct regulation methods. Additionally, attitudes toward data rights confirmation include affirmation and negation: the former, such as Qin Shun' s evidence-based policy perspective, confirms China' s developmental tendency toward data rights confirmation as necessary and valuable with practical, theoretical, and legal support; the latter, such as Mei Xiaying, argues that data lacks specificity and independence, does not belong to intangible objects, and cannot be included as objects representing civil rights, making rights confirmation inappropriate.

Domestic research on local policies has covered various fields including public cultural services, smart city construction, national elderly care policies, and national reading policies, though research on data-related policies remains insufficient. Studies have examined: (1) data opening and sharing, such as Huang Ruhua and Wu Zihan' s analysis of China' s government data opening and sharing policy system, Yang Zheng and Tian Jin' s analysis of China' s data opening and utilization policy system, and Xia Beili' s identification of typical strategies in local government data opening policy tool selection; (2) data security, such as Mao Zijun, Zhu Yuqian, and Xu Xiaolin' s analysis of 71 provincial government data security policy texts offering recommendations, and Ran Lian and Zhang Xi' s analysis of 33 local government data security policy texts proposing improvements; and (3) data property rights, such as Huang Haiying and Wen Yuheng' s analysis of China' s data property rights policy overview and specific content with adjustment recommendations.

In summary, research on data rights confirmation, while not extensive and lacking thematic studies on legislative strategy, has covered multiple angles and levels, providing reference value for constructing an analytical framework for data rights confirmation legislative strategy. Policy research has broad coverage and includes data-related policy studies, though none have addressed data rights confirmation specifically. Thus, research on legislative strategies for data rights confirmation is both supported by existing findings and offers substantial innovation space, demonstrating feasibility and practical utility.

3. Research Design

3.1 Sample Collection On July 6, 2022, the Wolters Kluwer legal information database was used as the data source to construct the search formula " 'data right' ~ 6" for full-text retrieval, allowing up to six characters between "data" and "right" to ensure comprehensiveness. This yielded 4 laws, 1 NPC Standing Committee document, 1 administrative regulation, 31 other State Council documents, and 55 local regulations (Wolters Kluwer classifies by issuing authority).

Manual review of the 4 laws identified 2 laws related to data rights and interests: Article 7 of the *Data Security Law of the People' s Republic of China* ("the state protects individuals' and organizations' rights and interests related to data") and Article 42 of the *Hainan Free Trade Port Law of the People' s Republic of China* ("protects individuals' and organizations' rights and interests related data according to law"). These provisions do not address attributes, content, or attribution of data rights, indicating a national legislative gap in China' s current data rights confirmation system. Although national legislation has not directly and explicitly stipulated data rights confirmation, Article 127 of the *Civil Code* provides that "where the law provides for the protection of data and network virtual property, such provisions shall apply," meaning other laws may regulate data. Combined with Article 7 of the *Data Security Law*, this provides a legal basis for local data legislation. Currently, most provinces have begun local exploration and practice in data rights confirmation legislation based on local digital economic and social development realities, providing sufficient support for this study.

Manual review of 1 NPC Standing Committee document, 1 administrative regulation, 31 other State Council documents, and 55 local regulations identified 11 State Council documents and 15 local regulations related to data rights confirmation. Since data rights confirmation involves legislative authority and policies generally reference "data rights confirmation" without specific content (e.g., the State Council's *14th Five-Year Plan for Digital Economy Development* mentions "orderly development of data rights confirmation, pricing, and transactions"), they do not meet sample requirements. Based on professional experience that local regulations on digital economy promotion, data regulations, big data development regulations, and data security management regulations (collectively referred to as "local data regulations") contain relevant provisions, but more than 15 local regulations exist, the retrieval method was adjusted.

Since no specialized legislation on "data rights confirmation" exists, direct keyword title retrieval yields no results. First, title searches for "data" and "digital" were conducted in both the Wolters Kluwer legal information database and the National Laws and Regulations Database, limited to local regulations, yielding 24 and 26 local data-related regulations respectively, with 23 overlapping samples. To ensure completeness, the union of both results was taken, yielding 27 samples. Second, considering that data rights confirmation research primarily concerns private rights allocation rather than public power division, 6 samples

targeting government data were excluded, resulting in 21 valid samples (see Table 1).

Based on Table 1, statistical analysis of the annual and regional distribution of local data rights confirmation regulations and related provisions visually presents the temporal evolution and spatial layout of China' s local legislative strategies (see Figure 1 [Figure 1: see original paper]). (1) Regarding temporal changes, the number of data rights confirmation-related provisions has grown alongside the number of regulations, showing continuous growth since 2016, particularly significant in 2021, with continued substantial growth in 2022 compared to other years. (2) Regarding spatial distribution of regulations: China' s eastern, central, and western regions comprise 11, 8, and 12 provinces respectively, with the eastern region having the most regulations (12) and highest provincial participation rate (91%). Although central (5) and western (4) regions have similar numbers, central region participation (62.5%) far exceeds western region participation (18.18%). Among provinces with legislation, Guizhou and Guangdong have the most regulations (3 each), with others enacting 1 each. (3) Regarding spatial distribution of provisions, since legislative technique prefers single provisions over multiple provisions when possible, more provisions in a regulation indicate more comprehensive regulation and stronger local practice. Except for Jiangsu, Zhejiang, Shanxi, and Hebei, other provinces average 4+ provisions per regulation, with Shenzhen having the most (16 provisions) (see Table 1).

This analysis reveals the overall temporal and spatial distribution of China' s local legislative strategies: over time, increasing localities have initiated data rights confirmation legislation, with progress and intensity closely related to local economic and social development. Notably, while Guangdong and Guizhou have similar numbers of regulations, Guangdong represents typical economy-driven legislation (legislation promoted by economic development needs), whereas Guizhou represents typical legislation-driven economic development (relying on legislation to promote economic growth).

3.2 Sample Processing The 21 samples are not specialized provisions on data rights confirmation; not all content relates to data rights confirmation. Therefore, only relevant segments were extracted for research. For conciseness, processed samples are hereafter uniformly termed "local data rights confirmation provisions," each containing only relevant segments.

Step 1: Raw Material Extraction. Since data rights confirmation in legal relationships includes subjects, objects, and content, and research encompasses attributes, content, and attribution, but samples contain different expressions, single search terms cannot locate relevant segments. All 21 samples were manually reviewed to identify data rights confirmation-related content. For example, Article 22 of the *Shenzhen Special Economic Zone Data Regulations* states "natural persons have the right to withdraw part or all of their consent to personal data processing," which, although not containing "data rights confirmation," includes provisions on subject ("natural person"), content ("right to withdraw

consent"), object ("personal data"), and attribution ("natural person") requiring extraction. This process yielded 110 data rights confirmation-related segments as raw materials for grounded theory analysis.

Step 2: Raw Material Numbering. To facilitate tracing original statements during conceptualization and categorization, raw material statements were numbered with six-digit codes combining "sample file number + original statement number." The first three digits represent sample file numbers (01S to 21S) corresponding to Table 1, and the last two digits represent sequential order within each file. For example, "09S01" indicates the first extracted statement from the *Shanghai Data Regulations*.

3.3 Coding Process Grounded theory methodology is suitable for large-scale, fragmented samples requiring both quantitative and qualitative analysis. Three paradigms exist: classic grounded theory (open coding, selective coding, theoretical coding), procedural grounded theory (open coding, axial coding, selective coding), and constructivist grounded theory (initial coding, focused coding, axial coding, theoretical coding). Procedural grounded theory remains mainstream in Chinese library and information science research. Since data rights confirmation requires open, axial, and selective coding, procedural grounded theory was selected.

3.3.1 Open Coding Initial conceptualization should use original vocabulary to avoid introducing subjective factors affecting objectivity. Due to space limitations, two sample examples illustrate the open coding process (see Table 2). After completing open coding of 110 raw materials, identical initial concepts and categories were merged, yielding 86 initial concepts and 10 categories (see Table 3).

To present local legislative strategies and provide adjustment recommendations, two aspects of completeness were emphasized. First, **completeness of initial concept content**: for example, the initial concept from segment 01S05 should be "right to collect data through lawful and legitimate means" rather than simply "right to collect data,"enabling subsequent analysis of legislative attitudes through qualifiers like "lawful" and "legitimate." Second, **completeness of initial concept quantity**: for example, segment 01S05 should yield three labels– "data processing market entities as data rights subjects," "right to collect data through lawful and legitimate means," and "attribution of rights to collect data through lawful and legitimate means" –to ensure complete extraction of all relevant concepts. Similarly, segment 09S05' s "use, processing" content should be conceptualized as two distinct labels– "right to use lawfully obtained data" and "right to process lawfully obtained data" –since "use" and "processing" have different meanings.

3.3.2 Axial Coding Based on initial categories, axial coding of the 10 categories yielded 5 main categories (see Table 4). The extraction process is

explained as follows: **B1**, data rights subjects and attribution are essentially stipulated in the same provisions, with subjects being prerequisites for attribution and attribution being the outcome for subjects, making their relationship inseparable, thus merging them; **B2**, the "may-do" pattern as a rights behavior pattern determines rights content, while the "must-not-do" pattern, although an obligation behavior pattern, can also determine rights scope through reverse application due to the private rights principle of "what is not prohibited is permitted," thus merging them to determine data rights content and boundaries; **B3**, the superordinate concept of data rights objects includes their classification, thus merging; **B4**, data rights attributes determine protection paths, with different attributes requiring different protection paths, thus merging; **B5**, data rights confirmation "methods" and "determining factors" cannot be included in the above categories and could theoretically stand alone, but due to minimal representation were merged into one category.

3.3.3 Selective Coding Selective coding further analyzed relationships between categories: data rights objects directly affect subjects, attribution, content, boundaries, attributes, and protection paths. This yields relationships between main categories: data rights objects directly affect subjects and attribution, content and boundaries, and attributes and protection paths (see Table 5).

Based on these relationships, the internal relationships of local legislative strategies can be derived (see Figure 2 [Figure 2: see original paper]): as the rights object, "data" determines subjects and attribution, content and boundaries, and attributes and protection paths, meaning data rights objects are the logical starting point for data rights confirmation and foundational for theoretical research and practical work.

3.3.4 Saturation Testing This study conducts both qualitative research on local legislative strategies and quantitative analysis of category frequencies. For example, "A3 Data Rights Object Classification" appears 9 times (2.80%), indicating insufficient regulation on data classification, while "B1 Data Rights Subjects and Attribution" appears 134 times (41.61%) and "B2 Data Rights Content and Boundaries" appears 124 times (38.51%), indicating regulatory priorities. Therefore, coding all samples can be considered saturation. In procedural grounded theory coding, theoretical saturation testing is essential for sampling coding but optional for full-sample coding. This study found no new conceptual labels or categories when coding the 109th segment (21S04) or the final segment (21S05), indicating theoretical saturation was achieved.

4. Analysis of Local Legislative Strategies for Data Rights Confirmation

4.1 Attitude and Conceptual Expression Strategies

4.1.1 Clear Tendency Toward Data Rights Confirmation Analysis of local provisions reveals that beyond generally stipulating protection of lawful data rights and interests—for example, the *Shenzhen Special Economic Zone Data Regulations* granting natural persons, legal persons, and unincorporated organizations property rights over data products and services lawfully processed, and granting natural persons personality rights over personal data—specific types of data rights are granted to different subjects. For example, the *Henan Digital Economy Promotion Regulations* grants data information subjects rights to knowledge, consent, access, copying, correction, withdrawal, and portability regarding their personal data. This demonstrates a clear rights confirmation tendency in local legislation. Although current local legislation tends to emphasize the property rights positioning of data elements, with objects limited to data products and services, this represents significant breakthrough.

4.1.2 Using "Data Rights and Interests" as the Overall Concept Local provisions do not directly use the term "rights" but instead use "rights and interests" as the general term—for example, the *Jiangsu Digital Economy Promotion Regulations* explicitly protects organizations' and individuals' rights and interests related to data, summarized as "data rights and interests." Legally, rights and interests encompass both rights and interests. However, in local legislation: "interests" refer to "national interests" and "public interests," expressed not as granted rights but as prohibited conduct (e.g., "must not harm national or public interests"); "rights" include rights to use non-public data resources and personal data rights such as knowledge, consent, access, copying, correction, withdrawal, and portability, as well as personal information consent and deletion rights. Thus, although "data rights" does not appear as a general term, specific rights content is 实质上 stipulated, meaning "data rights and interests" actually points to data rights rather than data interests, making the concept overly broad.

4.2 Object Optimization Strategies

4.2.1 Unclear Scope of Data Rights Objects As Table 4 shows, data rights objects account for 12.11% of total frequency, indicating relatively high importance. Although "object" does not explicitly appear in provisions, specific rights content necessarily implies corresponding objects. Table 3 reveals that beyond general use of "data" as the object, specific expressions include "big data," "personal data," and "data products and services," with "big data" having the highest frequency. This shows two considerations: protecting data with prominent property value (big data, data products and services) and protecting data with prominent personality interests (personal data). However, none of these have become universally recognized objects across provinces, resulting in unclear scope.

4.2.2 Insufficient Classification and Grading of Data Rights Objects Table 4 shows data rights object classification accounts for only 2.80% of total frequency, indicating insufficient attention. Table 3 reveals that data is classified into public and non-public data, further subdivided into government data, public service data, personal data, and anonymized data. Local legislation' s exploration of data classification, following Article 21 of the *Data Security Law*, is commendable, but classification standards remain inconsistent across provinces, with no provisions on data grading.

4.3 Attribute and Protection Path Selection Strategies

4.3.1 Emphasis on Property Attributes Over Personality Attributes Table 4 shows data rights attributes account for only 3.11% of total frequency, indicating unclear positioning. Table 3 reveals that although legislators recognize data' s dual attributes, property attributes are emphasized far more than personality attributes. Most provisions affirm data' s property rights, with only the *Shenzhen Special Economic Zone Data Regulations* stipulating "natural persons enjoy personality rights over personal data as prescribed by law" and the *Shanghai Data Regulations* stipulating "this municipality protects natural persons' personality rights over their personal information."If strictly distinguishing personal data and personal information, only Shenzhen' s regulations address personal data' s personality interests. In summary, local legislation prioritizes property rights protection over personality rights.

4.3.2 Uncertain Protection Path for Data Rights Table 4 shows data rights protection paths account for only 0.93% of total frequency, indicating minimal attention. Table 3 reveals two approaches: "rights and interests protection" and "property rights protection," both with extremely low frequency (1 and 2 occurrences respectively), reflecting no clear legislative tendency. As previously noted, "data rights and interests" actually points to data rights rather than interests, suggesting current local legislation remains uncertain about protection path selection.

4.4 Content and Boundary Expansion Strategies

4.4.1 Bidirectional Rights Confirmation to Promote Data Circulation and Utilization Table 4 shows data rights content accounts for 24.53% of total frequency, indicating high importance. Table 3 reveals two approaches: "may-do" empowering provisions granting specific rights to enhance protection, and "must-not-do" conduct provisions that, following the principle "what is not prohibited is permitted," maximize market autonomy for data development, utilization, transaction, and circulation. Further categorization by circulation/utilization and security/protection themes yields Table 6 , showing circulation/utilization rights account for 68.35%, far exceeding security/protection rights at 31.65%. This indicates that while both aspects

are addressed, provisions focus on bidirectional rights confirmation to promote data circulation and utilization, release property value, and drive local digital economic development.

4.4.2 Double Delineation of Boundaries to Limit Rights Exercise Table 4 shows data rights boundaries account for 13.98% of total frequency, indicating relatively high importance. Table 3 reveals the top three boundary provisions prohibit: (1) harming national security, public interests, or individuals' and organizations' lawful rights and interests; (2) violating laws, administrative regulations, or infringing others' lawful rights and interests; and (3) illegally collecting, utilizing, or trading data involving national security, public security, personal privacy, trade secrets, or military research. Boundaries primarily focus on not infringing other lawful rights and interests, including specific types (national security, public interests, public security, trade secrets, military research interests) and general categories (individuals' and organizations' lawful rights and interests). However, specific boundary provisions remain limited, accounting for only 22.22% of total boundary frequency. Additionally, initial concept qualifiers (see Table 6) show boundaries are further delineated through "according to law," "lawful," and "legitimate," with 50.63% of rights qualified by "lawful data sources" (primarily through "obtaining consent"). Current local legislation thus cautiously approaches rights exercise, delineating external boundaries through "not infringing other lawful rights and interests"and internal boundaries through "lawful and legitimate" sources.

4.5 Subject and Attribution Determination Strategies

4.5.1 High Attention but Insufficient Typification of Data Rights Subjects Table 4 shows data rights subjects account for 23.91% of total frequency, indicating high importance. Table 3 reveals subjects primarily include natural persons, legal persons, unincorporated organizations, data subjects, data processing market entities, users, and interested parties, with natural persons most frequent (50.68% of subject frequency) and legal/unincorporated organizations second (38.36%). These three general categories account for 89.04% of subjects. While attempts to refine subject types are commendable, specific types like data subjects, users, and data processing market entities account for only 11.96%. Overall, subject classification remains insufficiently specific.

4.5.2 Formally Complete but Substantially Unclear Data Rights Attribution Table 4 shows data rights attribution accounts for 17.70% of total frequency, indicating relatively high importance. Table 3 reveals that while attribution provisions are formally complete (generally matching rights content with corresponding subjects), they remain substantially unclear because attribution depends on determination of subjects, objects, and other elements that are themselves not clearly defined. For example, general provisions like "natural persons, legal persons, and unincorporated organizations' property rights

over data resource development and utilization results are protected and can be legally traded" remain vague. Only 19.18% of attribution provisions are sufficiently specific and operable, such as "personal information data shall not be illegally provided to others without the data subject' s consent."

5. Recommendations for Adjusting Local Legislative Strategies

5.1 Attitude and Conceptual Expression Adjustment

5.1.1 Eliminate Conceptual Ambiguity to Clarify Rights Confirmation Attitude Previous judicial practice has affirmed "data rights and interests" while denying "data rights," as in the Meijing v. Taobao case (2018) Zhejiang 01 Min Zhong No. 7312, where the court held that Taobao enjoyed competitive property rights and interests in the "Business Advisor" data product but not property rights in the underlying raw data. Against this background, local legislation' s use of "data rights and interests," encompassing both rights and interests, inevitably creates logical confusion. If understood according to local legislation, affirming "data rights and interests" means affirming both "data rights"and "data interests,"contradicting judicial practice. This ambiguity allows different parties to interpret the term to their advantage, creating potential disputes. Current judicial practice denies "data rights" due to lack of legal basis, with judges resorting to the *Anti-Unfair Competition Law* to protect "data rights and interests," implicitly expressing rights confirmation tendencies. Therefore, it is necessary to clarify the status of data rights in local legislation to eliminate ambiguity and clearly express legislative attitudes.

5.1.2 Select "Data Property Rights" as the Overall Concept Data rights confirmation refers to the process and state of determining the "essential elements of rights" for data elements, with data rights serving as a general term for confirmation results. Using "data rights" as the concept can eliminate ambiguity from using "data rights and interests." Data property rights fall within the data rights category and are most suitable as the meta-concept, as they balance data security and dividends while integrating personality and property rights approaches. Beyond the positive meaning of data rights, "property rights" emphasizes "property" characteristics. Compared to property rights, the property rights concept better suits legal relationships formed around data: its objects do not exclude persons themselves, and any object involving persons that manifests economic interests can become a property rights object; property rights can all enter market transactions, which property rights cannot. Therefore, selecting "data property rights" as the meta-concept can subsume data personality elements and data property interests under "property interests" without exceeding private law categories, better facilitating digital economy market development.

5.2 Object Optimization Adjustment

5.2.1 Clarify "Data" as the Rights Object Local provisions have ambiguously defined data rights object scope, favoring data with prominent property interests or personality interests, with relatively high recognition for big data, personal data, and data products/services. As data value continues to be released, protecting rights and interests based solely on big data is inadequate and may lead to incomplete protection, as individual data also has property and personality values worth protecting. When using data products/services as objects, it should be clarified whether data serves as the protection object of data rights or merely as a carrier for trade secrets and other intellectual property objects. Data as a component of big data and data products/services realizes instrumental value as a carrier; data inherently possesses usefulness, self-interest, and self-existence, enabling it to independently become a rights object and realize intrinsic value. Therefore, using "data"as the rights object better facilitates comprehensive protection and utilization. Local legislation should explicitly adopt "data" as the data rights object, referring to data itself rather than necessarily processed derivatives like big data or data products/services.

5.2.2 Grade Based on Personal and Non-Personal Data Chinese law only provides institutional requirements for data classification and grading without specific schemes. Local legislation can proceed based on the classification of "personal data" and "non-personal data" : for personality-interest-bearing "personal data" (e.g., personal information-loaded data), classify by lifecycle stage (collection, transmission, storage, processing, exchange, destruction) and content (basic data, identity data, location data), then determine levels based on sensitivity and post-destruction impact; for non-personality-interest-bearing "non-personal data" (e.g., industrial internet data), classify by thematic scenario (industry, agriculture, healthcare) and business module (collection, transmission, storage, processing), then determine levels based on application scenarios and post-destruction impact. As rights objects, different types and levels of data should receive different degrees of protection and different rights content, with "personal data" rights emphasizing control and "non-personal data" rights emphasizing utilization.

5.3 Attribute and Protection Path Adjustment

5.3.1 Emphasize Dual Attributes of Personality and Property The dual attributes of data rights as both personality and property rights have become academic consensus. However, localities' preference for clarifying property attributes for digital economic development risks encouraging data controllers and processors to excessively collect, utilize, and store user data through "bundled agreements," infringing user personality rights and interests. Personality rights and interests rank above property rights and interests; recognizing data' s property attributes while acknowledging its personality attributes helps balance circulation/utilization and security/protection. Although China' s *Personal Information Protection Law* protects natural persons' personality rights and inter-

ests in personal information, this does not negate data' s personality attributes. First, the fact that personal information' s personality rights are protected does not negate data' s own personality rights; second, personal information and data have a content-carrier relationship at different levels, allowing parallel protection without conflict for more comprehensive protection. Under the European Data Strategy, the EU' s 2022 *Data Governance Act* and draft *Data Act* both prioritize compliance with the *General Data Protection Regulation*, demonstrating that even when emphasizing data circulation and utilization, personality interests remain protected. Local legislation should equally emphasize data' s personality attributes alongside property attributes to balance interests among different subjects.

5.3.2 Select Property Rights Path for Data Rights Protection Rights protection can follow either "conduct regulation" or "property rights protection" paths. In China, conduct regulation is primarily embodied in the *Anti-Unfair Competition Law*, which is the preferred path for protecting data interests before they are statutorily recognized as rights. However, after establishing data rights, the property rights path is superior because conduct regulation is passively applied, while property rights protection offers proactive application and the unique advantage of highlighting that rights claimed by different subjects are transferable (tradable). Current local legislation includes property rights protection paths but has not emphasized them. Practicing data property rights protection in local legislation can foster the rule-of-law concept of data property rights, provide local 实践经验 for future national legislation, and promote the formation of data property rights legal systems.

5.4 Content and Boundary Expansion Adjustment

5.4.1 Improve the Data Rights Content System Local provisions primarily determine data rights content through bidirectional rights confirmation to balance circulation/utilization and security/protection, but content and system construction require strengthening. Compared to local legislation, national legislation on personal information rights is more comprehensive and systematic, with the *Personal Information Protection Law* providing richer rights types and more systematic content through dedicated chapters. Local legislation emphasizes circulation/utilization rights far more than security/protection rights, but data can only be effectively developed and utilized under security premises, requiring equal attention. Therefore, local legislation should strengthen data rights content provisions, focusing on both quantity and systematic construction. Attempts can be made to grant corresponding typified data rights to different data types and subjects, such as configuring data control rights for users and data operation rights for enterprises based on personal/non-personal data classification, with users' control rights including refusal, portability, and deletion, and enterprises' operation rights including relative possession, production use, operational autonomy, and incremental property income rights, thereby

balancing protection and utilization.

5.4.2 Expand Internal Boundaries of Data Rights Local provisions primarily use "not infringing other lawful rights and interests" as external boundaries and "lawful data sources" as internal boundaries. However, the general "not infringing other lawful rights and interests" is too abstract and vague, potentially reducing data rights through excessive interpretive space, while relying solely on "lawful data sources" is too narrow. Therefore, when external boundaries cannot be expanded, internal boundaries should be broadened by adding types of legitimate bases for rights exercise without undermining "lawful data sources." Article 13 of the *Personal Information Protection Law* provides valuable reference, expanding from source lawfulness to processing lawfulness and establishing multiple legitimate bases beyond "obtaining individual consent," including "necessary for contract formation/performance," "necessary for statutory duties," and "necessary for public interest news reporting." Broadening internal boundaries in this way helps rights subjects exercise their rights, effectively balances lawful rights and interests, and promotes data protection and utilization.

5.5 Subject and Attribution Determination Adjustment

5.5.1 Specify Subject Types by Scenario and Stage Local provisions stipulate subjects including natural persons, legal persons, unincorporated organizations, data subjects, data processing market entities, users, and interested parties, expanding beyond the *Personal Information Protection Law*'s limitation to natural persons. However, most provisions only generally attribute rights to these three general categories, failing to resolve specific rights allocation. Data rights are diverse, with different content for different data types, and multiple parties' interests typically load onto the same data. Attempts can be made to specify subject types by scenario and stage based on data classification and grading, such as distinguishing data generators from data producers, data subjects from data processors and controllers, granting corresponding data rights to different subjects in different scenarios and stages to balance multi-party interests.

5.5.2 Determine Rights Attribution Based on Subject Interest Claims Determining data rights attribution involves resolving which data subjects enjoy which rights over which objects—achieving reasonable "matching" among specific subject types, clear object classification, and rich rights content ensures operable attribution. With multiple parties participating in data processing and multiple interests loading onto the same data, "either-or" rights arrangements are no longer suitable. It is necessary to move beyond exclusive and monopolistic confirmation thinking, allowing multiple rights on the same data to be attributed to different subjects based on different application scenarios, stages, and interest claims. For example, the same data may involve research, consumption, or

medical scenarios, each with generation, collection, processing, and application stages involving different participants with different interest claims, requiring rights attribution based on these claims rather than to a single subject. Data property rights do not require exclusivity or monopoly, not only because it is factually impossible, but because different subjects using data for different goals can release different values without mutual depletion.

6. Conclusion

Data rights confirmation is a fundamental issue for data basic systems, an important topic for data element market cultivation, and a prerequisite for orderly data transactions. Currently, national legislation on data rights confirmation remains absent, while local legislation has begun practice, potentially providing valuable experience for future national legislation. When adjusting local legislative strategies, it is recommended to eliminate conceptual ambiguity to clarify rights confirmation attitudes, select "data property rights"as the overall concept, clarify "data" as the rights object with grading based on personal/non-personal data, emphasize dual personality and property attributes, select property rights protection paths, improve the data rights content system and expand internal boundaries, specify subject types by scenario and stage, and ultimately determine rights attribution based on different subjects' interest claims.

Current academic research on data rights confirmation is increasing but has not focused on legislative practice, primarily because "data rights confirmation" samples could not be collected. As an academic or policy term with high generality and ambiguity, "data rights confirmation" is unlikely to appear directly in legislative texts, which typically express confirmation through "subjects 'may' perform specific acts" or "subjects enjoy 'XX rights' ." This study' s use of grounded theory to examine local legislative strategies may innovate by: (1) expanding research fields by introducing "legislative strategy" to data rights confirmation, with future research extending to various legislative issues; (2) systematically presenting research points, revealing internal relationships in local legislative strategies, enabling deeper study of concepts, attributes, objects, subjects, content, boundaries, attribution, and protection; and (3) summarizing legislative practice to present temporal changes, spatial layout, and overall architecture, with future research refining local legislative experience. However, this study inevitably has limitations, providing only an analytical framework focused on "overall strategy" rather than "specific experience."

References:

[1] Political economic analysis of data as a production factor and data rights confirmation. *Inner Mongolia Social Sciences*, 2021, 42(05): 113-120.

[2] Wen Yuheng. Paradigm transformation, concept selection, and attribution subjects in data rights confirmation. *Journal of Northeast Normal University (Philosophy and Social Sciences)*, 2019(05): 69-78.

[3] Xiao Dongmei, Wen Yuheng. An outline of data rights spectrum. *Journal of Xiangtan University (Philosophy and Social Sciences)*, 2015, 39(06): 69-75.
[4] Wang Yulin, Gao Fuping. Research on property attributes of big data. *Library and Information*, 2016(01): 29-35+43.
[5] Song Fangqing, Qiu Zijian. Rule-of-law governance of data element markets: subjects, attribution, and paths. *Shanghai Economic Research*, 2022(04): 13-22.
[6] Wen Yuheng. *Private Law Construction of Data Property Rights*. Beijing: China Social Sciences Press, 2020.
[7] Yang Zhangbo, Wang Xinlei. Research on data ownership in big data transactions. *Information Studies: Theory & Application*, 2018, 41(06): 52-57.
[8] Wang Dongfang. Differentiation of data-related rights and their optimal protection paths. *Library Development*, 2022(03): 44-51.
[9] Wang Dong, Ye Xiongbiao. Theoretical expression and protection paths for enterprise data rights and interests. *Information Studies: Theory & Practice*, 1-8 [2022-12-29]. http://kns.cnki.net/kcms/detail/11.1762.G3.20221025.1134.007.html
[10] Qin Shun. Legal analysis and normative path of China' s data rights confirmation from an evidence-based policy perspective. *Library Development*, 2022(02): 58-69+79.
[11] Mei Xiaying. Legal attributes of data and its civil law positioning. *Social Sciences in China*, 2016(09): 164-183+209.
[12] Zhao Yifang, Wang Zheng, Pei Lei. Thematic analysis of public cultural service policies from a policy measurement perspective. *Library and Information Service*, 2020, 64(10): 66-74.
[13] Pei Lei, Zhou Zhaotao, Sun Jianjun. Policy measurement perspective on China' s smart city construction practice and application. *Library and Information*, 2016(06): 41-46.
[14] Wang Bo, Li Kun. Quantitative analysis of national elderly care policy: themes, trends, and development. *Chinese Public Administration*, 2018(04): 105-110.
[15] Qing Qian. Analysis of China' s national reading policy landscape and development trends based on policy text measurement. *Library*, 2020(11): 63-68.
[16] Huang Ruhua, Wu Zihan. Quantitative analysis of China' s government data opening and sharing policies. *Information and Documentation Services*, 2017(05): 6-12.
[17] Yang Zheng, Tian Jin. Policy literature measurement research on government data opening and utilization: a three-dimensional analytical perspective. *Journal of Intelligence*, 2018, 37(12): 175-181.
[18] Xia Beili. Research on policy tool selection for local government data opening in China. *Library and Information*, 2021(03): 66-78.
[19] Mao Zijun, Zhu Yuqian, Xu Xiaolin. Quantitative research on provincial government data security policies in China. *Journal of Intelligence*, 2021, 40(12): 72-79+50.
[20] Ran Lian, Zhang Xi. Research on data security policies in local government data opening: content analysis of policy texts from 33 prefecture-level cities.

Journal of Intelligence, 2020, 39(11): 96-103.
[21] Huang Haiying, Wen Yuheng. Policy measurement and optimization of China' s data property rights. *Library Tribune*, 2022, 42(03): 18-30.
[22] Wen Yuheng, He Yafeng. Cognitive survey and correction of data property rights market subjects. *Library Tribune*, 2022, 42(03): 31-42.
[23] Sheng Dongfang. Application of grounded theory in China' s library and information research. *Library Tribune*, 2020, 40(8): 78-86.
[24] Ji Leilei. Judicial dilemmas and breakthroughs in enterprise data protection: a path of typified rights confirmation. *Legal Forum*, 2022, 37(03): 109-121.
[25] Yan Weiwei, Xie Shunxin, Pan Jing, Lu Wei. Data classification and grading: research trends, policy standards, and practical progress. *Digital Library Forum*, 2022(09): 2-12.
[26] Qi Aimin, Pan Jia. Establishment of data rights and data sovereignty and basic principles of big data protection. *Journal of Soochow University (Philosophy & Social Sciences)*, 2015, 36(01): 64-70+191.

Author Contributions:
Wen Yuheng: Proposed research topic and framework, drafted manuscript, revised and finalized;
Fu Zhangyi: Collected and analyzed data, drafted manuscript.

Note: Figure translations are in progress. See original paper for figures.