Challenges and Countermeasures in Data Asset Auditing:A Case Study of Guoyuan Technology

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Abstract:Since the official rollout of the interim rules governing corporate data resource accounting practices, listing data assets in financial statements has brought out prominent practical difficulties in auditing adaptation. This paper selects Guoyuan Technology as the research object. Combining its 2025 annual financial report and public business data with relevant theoretical research results, the paper sorts out the actual development status of its in-house data assets. After in-depth analysis, the study sums up three core obstacles in current data asset auditing work, namely unclear ownership confirmation standards, unreasonable value evaluation methods and inadequate compliance inspection mechanisms. Corresponding feasible solutions are put forward in view of these problems, aiming to offer real-world reference for peer enterprises to carry out standardized data asset auditing work.

Keywords: Data Assets; Data Asset Auditing; Spatiotemporal Data; Data Asset Recognition

1. Introduction

Against the backdrop of booming digital economy development, data has evolved into an essential core production factor in modern economic activities. The official enforcement of the enterprise data resource accounting management provisions in 2025 has marked a new developmental phase for domestic enterprises to realize data assetization transformation. Nevertheless, traditional auditing work modes and institutional systems cannot fit the inherent attributes of data assets well, which gives rise to many practical troubles in actual accounting confirmation, daily auditing supervision and subsequent information disclosure work.

From the perspective of the overall auditing system construction, traditional auditing theories, daily audit procedure execution and information technology application are all formulated and carried out targeting physical tangible assets. Different from conventional assets, data assets feature intangible form, limited effective service life, vague ownership attribution, unstable value fluctuation and strong application scenario dependence. These unique traits create huge obstacles for auditors to finish asset recognition, accurate measurement and standardized information disclosure work smoothly.

Guoyuan Technology is a typical listed enterprise focused on geographic information service and agricultural big data operation, belonging to typical data-intensive enterprises. Centering on geographic information development and application business, the company integrates 3S core technologies with cloud computing, big data, artificial intelligence and other emerging digital technologies, mainly providing geographic information data engineering construction, customized industry software development and spatial information comprehensive service solutions for clients. Statistics from its 2025 annual report show that the enterprise's intangible assets achieved a year-on-year growth of 90.81%, among which data resources take up more than 90% of the total intangible asset volume. The legitimate source and fair value measurement of internal data assets directly determine the overall authenticity and reliability of the company's published financial data. Therefore, building a sound data asset auditing system and effectively controlling relevant audit risks have become urgent practical tasks for enterprises in the current digital transformation era.

2. Core Concepts and Theoretical Foundations

2.1 Definition of Core Concepts

2.1.1 Data Resources and Data Assets

In accordance with unified industry terminology standards issued by national data management authorities, data resources refer to all electronic

recorded and storable data sets that possess potential value creation capacity. Original raw data has low practical application value, and can only be converted into available social economic production factors and create stable economic benefits for holders after going through data cleaning, content integration and professional data analysis. In short, data resources are the primary potential form before formal data asset confirmation.

According to the white paper on domestic data asset management practical operation released by industry standardization institutions, data assets mean all data resources legally held or effectively controlled by market entities. Such data exists in electronic forms or other standardized carriers, with measurable economic value and market circulation attributes, and can directly or indirectly bring economic and social comprehensive benefits. Combined with current official data resource accounting management rules, most data assets owned by Guoyuan Technology conform to the confirmation conditions of intangible assets in accounting standards, and are uniformly recorded under the secondary accounting subject of intangible assets-data resources in actual financial accounting work.

2.1.2 Data Asset Auditing

Data asset auditing refers to a special audit supervision activity carried out by professional audit institutions in accordance with unified audit industry norms. Combined with the unique operational characteristics of enterprise internal data assets, auditors adopt targeted audit methods and technical means to fully verify the authenticity and rationality of enterprise-held data assets. In specific work, auditors need to confirm the actual existence status, complete inventory quantity, legitimate ownership attribution, accurate value measurement, reasonable asset classification and standardized financial disclosure of data assets, so as to provide credible financial decision basis for all users of enterprise financial reports. Since most data assets of Guoyuan Technology come from independent internal research and business project development, the focus of its daily data asset audit mainly falls on geographic information engineering data, agricultural industry big data and various spatial information service data involved in core businesses.

2.2 Theoretical Foundation

2.2.1 Risk-Oriented Auditing Theory

Risk-oriented auditing theory has formed a complete and mature theoretical system since the 1980s. This mainstream audit working mode relies on scientific audit risk assessment models, and reasonably judges the influence degree of financial report misstatement by using materiality judgment standards. In practical operation, auditors firstly evaluate the inherent risk level of audited projects, then test the enterprise internal control system to confirm internal control risk, and finally reasonably arrange the time, scope and specific content of substantive audit procedures, so as to control the overall audit risk within a reasonable acceptable range. The core logical formula of modern risk-oriented auditing can be summarized as: total audit risk = material misstatement risk × detection risk.

This classic auditing theory also has new application value in the field of data asset audit. Restricted by virtual storage form and unclear ownership boundary, data assets themselves carry relatively high inherent risks. Their market value is prone to obvious fluctuations affected by external environments, and the complete preservation and normal use of data are closely linked to enterprise information system operation safety. For this reason, when conducting data asset audit work for digital service enterprises represented by Guoyuan Technology, applying risk-oriented auditing theory to accurately sort out all potential risk points is the basic premise for formulating scientific audit plans and rationally allocating audit human and material resources.

2.2.2 Information Asymmetry Theory

The information asymmetry theory breaks the complete information market hypothesis in traditional classical economics, and clearly points out that there is obvious information mastery gap among all participants in actual market economic transactions. Market participants who master more core information can gain extra economic benefits by taking advantage of information differences, which is also one of the important reasons leading to inefficient market operation. This theory was put forward by well-known foreign economists in the 1970s, focusing on analyzing the negative impact of unequal information possession status on market transaction efficiency. The emergence and large-scale application of data assets further widens the information gap between enterprise

internal management and external investors, creditors and other stakeholders.

All core data assets of Guoyuan Technology are derived from daily core business links, including field collection and sorting of geographic information data, construction and operation of agricultural big data service platforms, as well as various data engineering service projects undertaken for natural resource departments and rural grassroots institutions. External audit institutions and external investors cannot fully grasp the actual quality, core value influencing factors and whole-process compliance status of these professional data resources. Meanwhile, there are many subjective judgment contents in the actual value evaluation process of data assets, which is easy to be manipulated by enterprise management personnel to adjust financial data, and further intensifies the hidden risks brought by information asymmetry. This also fully reflects the essential importance of carrying out standardized data asset audit work.

3. Analysis of Guoyuan Technology's Data Assets and Audit Status

3.1 Company Profile and Data Asset Composition

3.1.1 Company Profile

Beijing Century Guoyuan Technology Co., Ltd., abbreviated as Guoyuan Technology, is a formal software and information technology service enterprise listed on the Beijing Stock Exchange. The enterprise has long been engaged in geographic information research and agricultural big data service fields, takes geographic information technology research and application promotion as core business orientation, and relies on the organic integration of 3S technology and various emerging digital technologies to provide one-stop professional services for downstream clients.

The company has rich industry practical experience, has successively participated in many national land resource surveys and large-scale land right confirmation data sorting projects, and independently undertaken the construction work of many key national-level professional database platforms. Relying on profound professional accumulation in natural resource informatization construction and agricultural digital development fields, the enterprise has built self-developed big data service platforms and spatial mapping service systems, completed the construction of internal digital basic facilities and core data resource systems, and formed a complete spatial information integrated service system. It has deep layout in government digital construction and regional ecological environment governance businesses, and is a professional spatial-temporal big data service enterprise with prominent core competitive strength. In 2025, the company achieved an operating income of 242.54 million yuan, and the net profit belonging to listed company shareholders reached 21.75 million yuan.

3.1.2 Core Data Asset Composition

Combined with the main business layout and public financial disclosure information of Guoyuan Technology in 2025, its internal core data assets can be divided into four major categories, which jointly constitute the core digital competitive advantage of the enterprise:

(1) Self-developed agricultural geographic big data service platform: an integrated digital service system independently built by the enterprise, which can realize multi-source spatial-temporal data aggregation and sorting at the parcel level, and provide diversified services such as map visual display, official data interface docking, secondary development calling and internal business data docking. It is the core carrier for the enterprise to complete internal data storage, unified management and external business data output, with data sources covering government authorized data, project purchased data, user authorized shared data and independent field collected data.

(2) Basic geographic mapping data: including nationwide unified administrative division boundary data, land cadastral survey data, land parcel ownership division data, national geodetic coordinate benchmark data, land use type classification data and basic administrative division mapping data, which is the basic bottom data supporting all business data superposition application, mainly sourced from official government authorization and project formal procurement, supplemented by enterprise independent data verification and content calibration.

(3) Remote sensing intelligent interpretation data: based on purchased satellite and UAV original remote sensing image data, through the enterprise's independent research and development of intelligent analysis algorithms and manual professional visual interpretation

work, matching land parcel basic information to form targeted spatial-temporal data products covering crop planting distribution, crop growth status, natural disaster influence range, farmland use change and land cover type distribution, with data sources mainly including outsourced original image resources, official authorized basic data and enterprise independent intelligent processing and analysis results.

(4) 2025 full-cycle updated spatial-temporal data set: all newly updated basic mapping data and latest remote sensing interpretation professional data involved in the 2025 fiscal year business operation, which is the core operational data asset portfolio supporting the enterprise's daily main business development in the current period.

3.2 Financial Status of Data Assets

Combined with the detailed notes of Guoyuan Technology's 2025 annual financial report, the current financial accounting and daily management status of its internal data assets are sorted out as table1:

Table1. Guoyuan Technology 2024-2025 Core Asset Financial Data

Item	2024 Amount	2025 Amount	Growth Rate
Total Intangible Assets	6749103.93 Yuan	12877858.94 Yuan	90.81%
Among them: Data Resources	5477631.12 Yuan	12015319.34 Yuan	119.35%
Proportion of Data Resources	81.16%	93.30%	-
Total Enterprise Assets	643811300.69 Yuan	666511803.69 Yuan	3.53%

By the end of 2025, the book balance of the company's total intangible assets had risen significantly compared with the end of 2024. Data resources, as the core component of intangible assets, have a substantial book value, and the proportion in intangible assets has further increased year by year. The continuous growth of data resource book value is mainly due to the enterprise's continuous capitalization confirmation of various basic mapping data and remote sensing interpretation data developed and constructed independently, which fully reflects the enterprise's continuous capital investment in the field of core data assets.

Table2. Guoyuan Technology Data Resource Category Book Value Details

Data Resource Category	Book Value at End of 2024	Book Value at End of 2025
Geographic Data Service Platform	2967203.41 Yuan	2382106.93 Yuan
Basic Geographic Mapping Data	1309670.45 Yuan	1051419.29 Yuan
Remote Sensing Interpretation Data	1200757.26 Yuan	963982.50 Yuan
2025 Newly Built Spatial-temporal Data Set	-	7617810.62 Yuan
Total Data Resources	5477631.12 Yuan	12015319.34 Yuan

In terms of specific accounting measurement methods, the enterprise adopts the historical cost method for initial confirmation of all internal data assets. In accordance with current data resource accounting management regulations, all reasonable expenses incurred in the whole process of data collection, content cleaning, safe storage and independent research and development construction are included in the capitalization scope and recorded into intangible asset accounting subjects. In subsequent daily measurement work, the enterprise uniformly adopts the straight-line amortization method, with the amortization period set as 5 years, which is in line with the current common accounting operation practices and relevant regulatory requirements in the industry.

However, in the actual financial information disclosure link, the enterprise only lists the total amount of data resources in the notes of intangible assets in the 2025 annual report, and does not separately disclose key practical information such as specific source channels of data ownership, detailed internal composition structure, core basic assumptions for value evaluation, specific formulation basis of amortization policies and internal control systems for data compliance management. The overall disclosed content is too simple, which cannot meet the actual needs of audit risk control and external investors' rational investment decision-making.

3.3 Current Status of Data Asset Auditing

3.3.1 Audit Institution and Published Audit Opinion

The 2025 annual financial statements of Guoyuan Technology were audited by Pan-China Certified Public Accountants, and the audit institution finally issued a standard unqualified audit opinion. The audit conclusion shows that all financial data prepared by the

enterprise in 2025 are compiled in strict accordance with the current enterprise accounting standards, truly and completely reflect the actual financial operation status of the enterprise at the end of 2025 and the overall operating performance and cash flow situation in the whole year.

3.3.2 Main Audit Scope and Working Focus

From the content disclosed in the official 2025 audit report, the key audit items confirmed by auditors are still concentrated in traditional high-risk financial fields such as enterprise operating income confirmation, accounts receivable bad debt provision and contract asset impairment assessment. Even though the scale of the enterprise's internal data assets has expanded rapidly, data assets have not been included in the scope of key audit supervision items. In addition, from all publicly disclosed official information, audit institutions have not formulated targeted special audit procedures for core contents such as legitimate ownership source, actual existence status, fair value measurement and whole-process compliance management of enterprise data assets.

3.3.3 Practical Implementation Status of On-site Audit

In the current actual audit work process, auditors still mainly rely on traditional financial vouchers, accounting books and business contract texts as core audit evidence, failing to fully combine the unique virtual attributes of data assets to carry out targeted audit verification work, and there is no complete and systematic special audit work system for data assets. At the same time, the existing audit team lacks compound professional talents who are familiar with geographic information technology, remote sensing data analysis and big data operation management, and cannot well cope with the professional audit verification needs of spatial-temporal data and intelligent algorithm analysis data, forming obvious blank areas in actual audit supervision work.

4. Identification of Data Asset Audit Challenges for Guoyuan Technology

4.1 Difficulties in Ownership Confirmation and Actual Existence Verification

4.1.1 Fuzzy Ownership Division Brings Higher Audit Risks

Guoyuan Technology undertakes a large number of government-led public welfare projects and national key construction projects all year round, and the internal involved data resources include official public government data, industry classified confidential data, external cooperative shared data, market purchased authorized data and other multiple types of resources, resulting in unclear division boundaries of actual ownership rights. Meanwhile, the various expenses incurred in the links of data field collection, professional content interpretation, data label sorting and core platform research and development are easy to be mixed and confused. There is strong subjective arbitrariness in distinguishing capitalized expenditure and current period expense expenditure.

In addition, most of the enterprise's core data resources are in a simultaneous state of continuous collection, standardized sorting, daily application and iterative update, and it is difficult to clearly distinguish the boundary between early exploratory research stage and formal project development stage in accounting work. This situation makes auditors have reasonable doubts about whether the enterprise has artificially increased the volume of intangible assets through improper capitalization confirmation, or adjusted the actual profit level of the enterprise by changing the expense confirmation method.

4.1.2 Technical Barriers Increase the Difficulty of Existence Verification

All data assets confirmed as intangible assets have typical characteristics such as invisible storage form, huge overall data volume and centralized cloud server storage mode. Auditors cannot complete actual asset inspection and quantity verification work like checking traditional physical assets. All core business data of Guoyuan Technology are stored in enterprise exclusive cloud servers, involving massive remote sensing image resources and land parcel detailed data, with fast daily data update speed and frequent content iteration.

The traditional manual inventory verification method adopted in conventional audit work cannot verify the authenticity, complete coverage and content accuracy of these professional data resources. Moreover, the enterprise's core business spatial-temporal data has strong time effectiveness and regional uniqueness, and will gradually lose practical use value with the passage of time, and its actual application scope will also change with the adjustment of national industry policies and

market development trends. The normal preservation of all data resources is completely dependent on the stable operation and safety protection level of enterprise internal information systems. Once there are system loopholes or man-made data tampering problems, it will further increase the difficulty for auditors to complete the existence verification of data assets.

4.2 Deficiencies in Data Asset Value Evaluation and Daily Measurement Work

4.2.1 Disconnect between Historical Cost Measurement and Actual Market Value

The data assets owned by the enterprise cover multiple types such as remote sensing original images, land parcel basic information, agricultural industry ownership data, intelligent analysis result data, basic mapping resources and professional database finished products. Such assets have no physical entity form, lack mature public transaction markets and unified fair market pricing standards. Although the enterprise uniformly adopts the historical cost method for initial value measurement in financial statements, this traditional measurement mode cannot truly reflect the actual intrinsic value and market application value of data assets. At the same time, a single data asset cannot independently generate stable operating cash flow, which also makes it difficult for auditors to verify the rationality of its final value measurement results.

4.2.2 Lack of Unified Standards for Amortization Provision and Impairment Assessment

The enterprise's core data assets represented by remote sensing images have extremely strong time-sensitive attributes, with fast content iteration speed and frequent version updates. Old data resources will rapidly depreciate in practical application value after being eliminated by new data resources, and the adjustment of national industry related policies will also lead to some existing data resources completely losing practical application value. At present, the whole industry has not formed unified unified formulation standards for the reasonable service life and value depreciation rate of various types of data assets.

Although the enterprise clearly stipulates that all data assets adopt the 5-year straight-line amortization mode in financial disclosure, it does not announce the specific investigation and demonstration basis for determining the amortization period, nor adjust the existing amortization management policies according to factors such as data timeliness attenuation speed, daily update frequency and changing business application scenarios. In terms of regular asset impairment testing work, the calculation of the recoverable amount of data assets relies too much on the subjective judgment of enterprise management personnel, and the setting of core parameters such as future expected cash flow volume, reasonable discount rate and residual disposal cost lacks objective and credible formulation basis. It is easy to be used by management personnel to carry out earnings management behavior, and auditors cannot effectively verify the scientificity and accuracy of the whole impairment testing work.

4.3 Hidden Risks in the Whole-process Compliance Management of Data Assets

4.3.1 Difficult Traceability of Legitimate Sources of Various Types of Data

The data resource acquisition channels of Guoyuan Technology are complex and diverse, involving multi-party main bodies such as government functional departments, grassroots farmers and third-party professional data service institutions. The whole authorization and use approval chain is lengthy and complicated, bringing great difficulties to the whole-process compliance traceability work. In actual audit work, auditors cannot fully check whether the official government data use authorization procedures are complete and effective, whether the field collection of farmers' related information has obtained sufficient personal informed consent, and whether all externally purchased commercial data fully meet the provisions of national data security laws and personal information protection related laws and regulations. Some business data involve sensitive core information such as regional farmland distribution data and farmers' personal basic information. Once there are irregular operations in the data collection link, it is difficult for auditors to find out in a timely manner, which greatly increases the hidden risks of compliance audit work.

4.3.2 Strict Compliance Requirements for Data Processing and Circulation Links

All links in the whole life cycle of data assets, including source collection, centralized storage, professional processing, market-oriented

application and final data elimination and destruction, must strictly abide by relevant national laws, regulations and industry management norms. As a professional geographic information service enterprise, it also needs to meet the strict management requirements of industry special laws such as surveying and mapping management regulations and remote sensing data safety management norms. Part of the core business data also involves national classified confidential information and key farmland protection related data, with extremely strict overall compliance control standards.

In the actual audit process, auditors are not only required to check the authenticity of enterprise financial data, but also need to fully understand the actual operation flow of all core businesses, and verify whether the internal control management systems formulated by the enterprise in the links of data processing, internal circulation and external shared docking can be effectively implemented in place. The whole audit work needs to collect a large number of business-related audit evidence materials, with high overall work difficulty and heavy task volume.

5. Countermeasures for Data Asset Audit Challenges at Guoyuan Technology

Combined with the actual business operation and financial management status of Guoyuan Technology, this paper takes the core confirmation items of standard audit work as the starting point, and constructs a set of hierarchical and operable improvement countermeasure system targeting all existing audit difficulties.

5.1 Formulate Unified Standardized Ownership Confirmation Management Procedures

5.1.1 Clarify Ownership Division Standards and Sort out Complete Evidence Chains

In view of the vague ownership attribution problem of various data assets of the enterprise, classified confirmation management shall be implemented for independently researched and developed data resources, government project delivered data resources and externally authorized shared data resources respectively, and complete supporting business documents and applicable legal basis shall be checked one by one. For all independently researched and developed internal data, complete project approval documents and whole-process implementation records shall be sorted out; for all finished data delivered by undertaking government projects, formal project cooperation contracts, official project acceptance reports and clear ownership right confirmation agreements shall be retained completely; for all externally purchased and authorized used data, formal copyright use authorization contracts and clear provisions on use period and use scope shall be checked in detail.

Combined with the current enterprise accounting standards and the actual characteristics of the enterprise's internal various data assets, clear definition standards shall be formulated to distinguish the research stage and development stage of data projects. All expenses incurred in the exploratory experimental research stage shall be fully included in current period expenses; all systematic targeted development activities with clear construction objectives, replicable research results and ability to form standardized data products shall be classified as the development stage, and relevant expenses shall be standardized for capitalization confirmation, so as to ensure that all data asset sources can be traced and ownership boundaries are clearly divided.

5.1.2 Introduce Professional Technical Means to Break through Existence Verification Barriers

Aiming at the problems such as high professional technical barriers of enterprise internal data management systems and difficult manual verification of data authenticity by auditors, a set of technical inspection + sampling verification combined audit mode shall be established. Firstly, strengthen the professional ability construction of the information technology audit team and enrich the application of professional audit tools. Under the premise of obtaining formal enterprise authorization and standardized supervision, auditors can conduct field inspection tests on enterprise internal core databases, confirm the actual physical storage status of data resources, formulate targeted key index verification checklists for data assets, and write automatic detection scripts in the audit process to complete rapid evaluation of overall data quality. Secondly, apply privacy computing and other emerging technical means to obtain effective audit evidence on the premise of not leaking enterprise core business confidential information, realize the controllable use of data content without direct viewing, and effectively

protect the enterprise's core commercial secrets.

5.2 Optimize Data Asset Value Evaluation Mode and Ensure Measurement Fairness

5.2.1 Standardize Audit Procedures for Value Fairness Verification

In order to effectively judge whether the value measurement results of enterprise data assets are true and fair, auditors can optimize the on-site audit work from two aspects. On the one hand, strictly check the rationality of data asset cost aggregation and expense allocation work, sort out the specific scope and actual allocation standards of various expenses incurred in the whole formation process of data assets, verify the authenticity and traceability of all capitalized expenses, and collect sufficient and standardized audit evidence materials. On the other hand, make full use of analytical review audit procedures, collect public transaction cases of similar data assets in the same industry, refer to industry public data released by third-party professional platforms, reasonably judge whether the discount rate and future business income growth rate adopted by the enterprise in data asset value prediction are in line with industry actual conditions. Conduct multi-dimensional demonstration on the rationality of all basic assumptions involved in future cash flow prediction, ensure that all value evaluation results are consistent with the actual development status of the enterprise's core businesses, and form objective audit conclusions on the fairness of data asset value measurement.

5.2.2 Improve Information Disclosure System and Dynamic Impairment Assessment Mechanism

Require the enterprise to further enrich the content of financial statement notes disclosure, fully and detailedly announce key information related to data assets including core value evaluation basic assumptions, specific measurement implementation methods, specific formulation basis of amortization period, all important prediction parameters and clear source channels of ownership rights, effectively improve the overall transparency of the whole process of data asset confirmation and measurement, and help all financial report users accurately grasp the actual value composition and potential operational risks of enterprise data assets.

At the same time, urge enterprise management to establish a long-term dynamic data asset impairment regular assessment mechanism. Combined with daily business operation data, continuously track the real-time value change trend of all types of data assets, clarify clear asset impairment judgment trigger conditions. When data resources face problems such as content aging and failure, service scope shrinkage, application scenario reduction and market competitive advantage decline, initiate standardized impairment testing work in a timely manner to ensure that the provision of asset impairment losses is timely, sufficient and accurate.

5.3 Build a Whole-Process Data Asset Compliance Audit System

Only when all data resources fully meet the constraints of national relevant laws and industry management norms can they be truly converted into data assets with stable economic value. Auditors need to conduct comprehensive systematic inspection on the enterprise's data source acquisition channels, content standard compliance, daily processing operation norms, internal management modes, market transaction processes and data safety protection measures, confirm that the enterprise has realized effective legal control over all data assets, and ensure that there are no irregular illegal operations in all links of the whole data life cycle, so as to issue objective and fair formal audit opinions.

In daily audit work, the inspection focus shall be placed on checking the design rationality and actual operation effect of enterprise internal control systems in key links such as data source collection, standardized sorting and governance, information safety management and authorized external use. Sort out the enterprise's internal data classified grading management list, classified data use approval documents and formal confidential management agreements, and verify whether all data sources are legal and compliant and whether daily processing operations are standardized and orderly. Check third-party professional institutions' issued data asset compliance evaluation reports, formal ownership right certificates, various use authorization documents and project formal acceptance materials. For key uncertain matters, adopt external letter confirmation and on-site personnel interview methods to verify the background information of data cooperation and authorization, and formulate alternative audit procedures for items that fail to obtain effective

reply information.

In addition, auditors also need to carefully check the enterprise's internal data asset independent management statement, official surveying and mapping business qualification certificate, classified data processing operation qualification and various necessary industry business administrative licenses. Strictly screen whether the business-related data resources involve national core confidential information and restricted use surveying and mapping achievement data, and confirm that all data use scope, daily storage management methods and external data sharing boundary settings fully meet the requirements of national regulatory management norms.

6. Conclusion

Taking the full implementation of data asset financial statement confirmation work as the research background, this paper takes Guoyuan Technology as the specific research sample, sorts out its financial report data and annual audit report content in 2025, combines risk-oriented auditing theory and information asymmetry theory to comprehensively analyze the current situation of its internal data asset financial disclosure and daily audit work, sorts out multiple practical difficulties existing in the actual data asset audit link, and puts forward targeted feasible improvement solutions.

The research finds that the current financial information disclosure content of Guoyuan Technology's data assets is too simple and incomplete, and the daily audit work still stays in the traditional financial audit working mode, failing to formulate targeted supervision measures aiming at the inherent special risks of data assets. At present, the enterprise's data asset audit work mainly faces three major core difficulties: unclear ownership right division and difficult actual existence verification, unscientific value evaluation methods and unreasonable daily measurement standards, as well as complicated whole-process compliance inspection work and difficult risk prevention and control. In view of the above problems, this research puts forward practical improvement paths including formulating standardized ownership confirmation processes, relying on technical means to assist existence verification work, optimizing audit verification procedures, enriching financial information disclosure content, carrying out full-life cycle compliance audit supervision and cultivating compound professional audit talents.

This research still has certain research limitations. Firstly, restricted by the difficulty of obtaining enterprise internal private data, it cannot obtain detailed information such as enterprise internal data resource daily governance norms, specific value evaluation parameter setting standards and complete internal control operation processes, resulting in insufficient research depth of partial content. Secondly, the research perspective is relatively single, mainly focusing on the research and analysis of financial accounting and daily audit levels, and there is insufficient in-depth discussion on the legal constraint risks, professional technical barriers and macro policy environment influences involved in the whole process of data asset operation.

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