

# Explore the Significance, Problems and Suggestions for Data Assets Entry into the Statement in Financial Institutions

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**Abstract:** As an emerging asset type in the process of economic and social digital transformation, data assets are increasingly becoming an important strategic resource to promote the construction of digital China and accelerate the development of digital economy. For enterprises, data resources will become strategic resources in the future, and data assets will become core assets. As an important provider of financial services, financial institutions have a large amount of data involving customers, transactions, risks and other aspects, which has become the core resources of financial institutions. This paper systematically explains the significance of the era of data assets from the macro, middle and micro levels, and points out that the Interim Provisions on Accounting Treatment of Enterprise Data Resources issued by the Ministry of Finance has opened a new chapter of data assets entering the statement in China and provided a new idea for the value discovery of financial institutions' data assets. This paper sorts out the main problems faced by financial institutions in the fields of data valuation and pricing, asset recognition conditions, statement manipulation and so on, and puts forward some suggestions for orderly implementation of data asset entry.

**Keywords:** Financial Institution; Data Asset; Data Evaluation; Data Asset Entry

## 1. Introduction

From the digital China strategy, data factor market layout, and the enterprise digital transformation practice and data resources "into the table" exploration, the digital economy and data factors have driven thousands of industries to create new business models, new industrial ecology and new cognitive insights. Data, as a new production factor, is an important institutional innovation

in the era of digital economy in China. In 2022, China issued the Opinions on Building a Data Basic System to Better Play the Role of Data Factors (referred to as the "Data 20"), which provides guidance for deepening the market-oriented allocation reform of data factors, releasing the value of data factors, and promoting the high-quality development of the digital economy. The People's Bank of China issued the "Financial Technology Development Plan (2022-2025)" (issued by Yinfa [2021]335), The former China Banking and Insurance Regulatory Commission issued the "Guidance of the General Office of the China Banking and Insurance Regulatory Commission on the Digital Transformation of the Banking and Insurance Industry" to provide guidance for financial institutions to carry out digital transformation, digital business management and data capacity building and other five areas. Under the guidance of the top-level design framework and policies, the participants in the circulation and transaction of data elements are enterprises, and the value of data elements is reflected in the production and operation activities of enterprises. Enterprises should do a good job in the management and operation of data elements and create the value of data elements, which has become the mission given to every enterprise in the digital operation era.

At present, the digital transformation of enterprises is in full swing. Through digital capacity building, enterprises can achieve more information coverage of business processes, smoother upstream and downstream connections of the industrial chain, more attractive customer service experience, more agile management levels and integration and collaboration between business lines. All these measures have greatly enriched the breadth and depth of enterprise data resources, and it can be said that the road of digital transformation of enterprises is the road of

abundant enterprise data resources.

The financial industry has relatively complete information infrastructure, early start of digital transformation, large annual investment, a high degree of data integration in business operations, and clear data governance and regulatory reporting data quality requirements, so the financial industry has always paid close attention to and implemented the circulation of data elements and enterprise assets.

In August 2023, the Ministry of Finance issued the Interim Provisions on Accounting Treatment Related to Enterprise Data Resources, which is of milestone significance in encouraging and guiding enterprises to account data resources. This marks the official birth of data resource accounting, data elements can be treated from natural resources to data assets, and enterprises have the basis of accounting standards for the recognition, measurement and information disclosure of data resources, and the value creation of enterprise data resources has an institutional basis and the explicit display of financial statements. This is bound to further promote the vigorous development of the financial industry data elements market.

Till now, the research on data assets entry into the statement is mainly aimed at the whole industry [1-4], the research on the segmentation of financial industry mainly focuses on the data entry of commercial banks [5,6], there is no systematic research on the segmentation of financial industry. From the perspective of data transaction business, the data transaction that has landed is the one with the largest number of listed products and the highest trading volume in the financial industry [7]. Therefore, it is of great significance and reference value for the healthy development of the entire data element market to conduct research from the financial subdivision field, start from the most representative industries, and promote the smooth development of data assets entry into the statement. Based on the research reports, development reports and white papers of relevant scientific research institutions from experts and scholars, this paper mainly studies the entry of data assets in the financial industry, analyzes current market status and challenges, and proposes corresponding countermeasure.

## 2. Current Status of the Data Factor Market

### in the Financial Industry

#### 2.1 Annual Trends in the Number and Scale of Procurement Projects

The scale of data factor procurement in the financial industry is growing exponentially. Public bidding information shows that in the past five years, the compound annual growth rate of the number of data factor procurement projects in the financial industry has reached 40%, far exceeding the compound annual growth rate of 26% in the number of total financial industry procurement projects, showing that the scale of financial industry data trading market is developing rapidly.

Judging from the size of the data procurement amount, the data procurement amount is mainly distributed between 100,000 yuan and 1 million yuan, and the data procurement projects here account for about half of all data procurement projects; followed by million-level data procurement projects, accounting for about half of the total one-third of data procurement projects.

#### 2.2 Regional Distribution of Procurement Projects

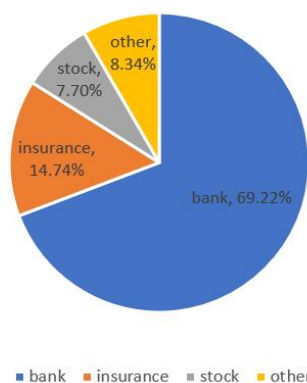
From the analysis of the implementation places of data procurement projects, data procurement activities are mainly carried out in Beijing, Shanghai, Guangdong province, Jiangsu province, Henan province and other regions. Among them, the largest number of data procurements are carried out in Beijing, accounting for 27.18%. The total number of data purchases carried out by in Beijing municipality, Shanghai municipality and Guangdong province accounted for 47.85%.

#### 2.3 Industry Segmentation Data Procurement Analysis

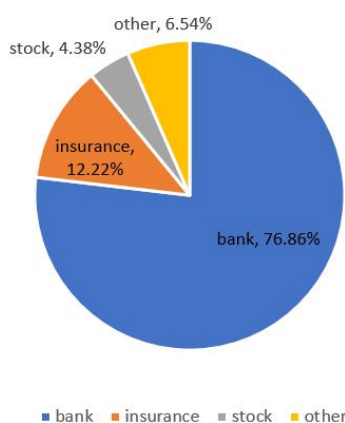
The industry with the most data procurement projects is the banking industry, accounting for 69.22% of all data procurement times. Insurance and securities data procurement accounts for 14.74% and 7.7% respectively, as shown in Figure 1.

In terms of data purchase amount, the banking department has the largest amount of data purchase, accounting for 76.86% of the total data purchase amount. The insurance department and securities department are accounting for 12.22% and 4.38% of the total data purchase amount respectively. And 6.54%

of the data purchase amount comes from other departments, as shown in Figure 2.



**Figure 1. Number of Data Procurement Items Industry Distribution**



**Figure 2. Data Procurement Expenditure of Financial Sub-Departments**

## 2.4 Financial Industry Data Product Transactions

In terms of financial industry data trading products, financial industry data trading products can be divided into personal information, corporate information and other information. Personal information data product transactions, represented by personal credit reporting, identity authentication, and real estate data, dominate the market, accounting for approximately 70% of the entire financial industry data transactions [8]. Enterprise information data products are relatively rich, covering basic enterprise information, enterprise operating activities, enterprise investment and financing, enterprise portraits, affiliated enterprises, as well as enterprise-based industry information and industry chain information. According to comprehensive calculations, public data accounts for approximately 90% of the data products traded

in the financial industry.

## 3. Main Contents of Data Assets Entered into the Table

The Interim Provisions on Accounting Treatment of Enterprise Data Resources clarify the specific scope of application, clarify the specific standards applicable in different situations, put forward specific requirements for listing and disclosure, and determine the implementation time and application methods.

### 3.1 Provisions on the Scope of Application

The provisions apply to the accounting treatment of two types of data resources: one is the data resources that can be recognized as intangible assets, inventories and other assets under the current accounting standards, and the other is the data resources that meet the definition of assets but do not meet the conditions of asset recognition.

### 3.2. Provisions on the Application of the Guidelines

The provisions clarify the specific application rules of Accounting Standards for Business Enterprises No. 1 - Inventory, Accounting Standards for Business Enterprises No. 6 - Intangible Assets, Accounting Standards for Business Enterprises No. 14 - Income and the corresponding application guide of accounting standards for business enterprises in the accounting treatment of data resources. In the specific application, accounting treatment methods such as confirmation, initial measurement and subsequent measurement of data resources held by enterprises should be determined according to the business purpose of data resources held by enterprises themselves, and considering the formation mode of data resources held by enterprises, specific business models and expected consumption mode of economic benefits related to them.

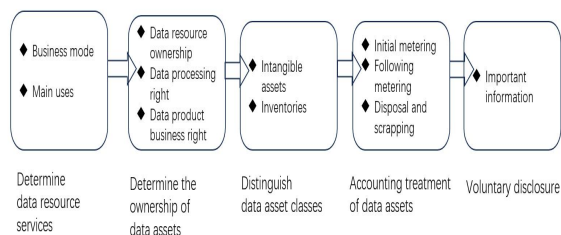
### 3.3 Requirements for Listing and Disclosure

The regulations clarify that enterprises holding data resources should implement a new disclosure mode combining mandatory disclosure and voluntary disclosure of data resources in accordance with the requirements of the accounting Standards for enterprises and the Interim Provisions. When listing in the balance sheet, the enterprise holding data

resources shall add sub-items under "inventory", "intangible assets", "development expenditure" and other items according to the principle of materiality and combined with its own situation. For data resources identified as intangible assets or inventories, enterprises shall be forced to disclose the original book value, cumulative amortization (only intangible assets), impairment reserve (or inventory decline reserve), book value and other information of data resources in accordance with the prescribed disclosure format, and allow enterprises to voluntarily disclose other information related to data resources within the scope of application of the Provisional Provisions.

### 3.4 Data Asset Entry Path into the Table

Typically, there are 5 steps for data asset entry path into the accounting table, as shown in Figure 3.



**Figure 3. Data Asset Entry Path into the Table**

#### (1) Determine data resource services

In the process of entry, financial enterprises first need to clarify the business model of data resources and determine the main use of data resources. Data resources are used for internal operations, provided as a service to external customers or partners, or sold to other organizations. Different business models will affect how data resources are classified and accounted for in financial statements.

#### (2) Determine the ownership of data assets

It is important to determine the ownership of data assets, which involves determining the right to hold data resources, the right to use data processing, and the right to operate data products. The ownership determination will determine whether the data resource can be disclosed as a data asset in the financial statements.

#### (3) Distinguish data asset classes

Data resources used by enterprises that meet the definition and recognition conditions stipulated in Accounting Standards for

Enterprises No. 6 - Intangible Assets (Finance and Accounting (2006) No. 3, hereinafter referred to as the "intangible assets Standard") shall be recognized as intangible assets.

The data resources held in the daily activities of an enterprise and used for the ultimate purpose of sale, which meet the definition and recognition conditions stipulated in the Accounting Standards for Enterprises No. 1 - Inventory (Finance and Accounting (2006) No. 3, hereinafter referred to as the "inventory Standard"), shall be recognized as inventory.

#### (4) Accounting treatment of data assets

Accounting treatment of data assets as intangible assets:

Enterprises shall, in accordance with the intangible assets Standards, "Accounting Standards for Enterprises No. 6 - Intangible Assets Application Guide" (Finance and Accounting [2006] No. 18, hereinafter referred to as the "Intangible assets Standards Application Guide") and other provisions, the data resources identified as intangible assets for initial measurement, subsequent measurement, disposal and scrapping and other relevant accounting treatment.

The expenditure of the internal data resource research and development project shall be distinguished between the expenditure in the research stage and the expenditure in the development stage. Expenditures in the research phase shall be recorded in the current profit or loss when incurred. Expenditures in the development phase can only be recognized as intangible assets if they meet the relevant conditions stipulated in Article 9 of the Intangible Assets Standard.

Accounting treatment of data assets as inventories:

Enterprises shall, in accordance with the inventory standards, "Accounting Standards for Business Enterprises No. 1 - Inventory" Application Guide (Finance and Accounting [2006] No. 18) and other provisions, carry out initial measurement, subsequent measurement and other relevant accounting treatment for data resources identified as inventories.

#### (5) Voluntary disclosure

If an enterprise evaluates data resources and the evaluation results have an important impact on the financial statements of the enterprise, it shall disclose the information sources based on the evaluation, the assumptions and limitations of the establishment of the evaluation

conclusions, the selection of evaluation methods, the sources of important parameters, the analysis, comparison and calculation process, and other information.

#### **4. Grasp the Era Significance of Data Assets Entering the Table**

##### **4.1 From a Macro Perspective, the Entry of Data Assets into the Statement Will Fully Release the Digital Economic Potential of Financial Institutions**

In the digital age, data has become a new production factor as important as land, labor, capital and technology in the industrial economy era. Data is the foundation for the development of China's digital economy, the "multiplier" of other production factors, and the "core engine" for the in-depth development of the digital economy [9].

The entry of data assets into the statement can significantly improve the asset quality and market competitiveness of financial institutions. In the digital economy, data is regarded as the new "oil" and is highly valuable. By formally including data assets on their balance sheets, financial institutions can more clearly demonstrate the value of their data resources, attract investors and partners, and strengthen their market position.

Through the entry of data assets, financial institutions can make better use of data analysis and artificial intelligence and other technologies to innovate financial products and services. The quantification and standardization of data assets help financial institutions develop more personalized and accurate financial products, meet the diversified needs of customers, and promote financial innovation.

##### **4.2 From a Middle-View Perspective, the Entry of Data Assets into the Table Will Accelerate the Digital Transformation and Industrial Upgrading of Financial Institutions**

A high degree of consensus has been reached on the potential high value and importance of data resources for the development of the digital economy, as well as their strategic significance for empowering enterprises in digital transformation and industrial upgrading [9]. As a fundamental element of the digital economy, data is manifested in digital

industrialization and industrial digitization, especially through the continuous development of new application scenarios to generate benefits, and through the reuse and acceleration of data flow to generate new value. The entry of data assets into the balance sheet is an important milestone in the digital transformation of financial institutions. This will not only facilitate the digitization of the internal management and operations of financial institutions, but also promote the deep integration of financial institutions with the digital economy. Through the effective use of data assets, financial institutions can better adapt to the development needs of the digital era and achieve transformation and upgrading.

##### **4.3 From a Micro Perspective, the Entry of Data Assets into the Statement Will Promote Financial Institutions to Strengthen Data Management and Enhance Value**

Data assets into the table means that financial institutions will pay more attention to the management and use of data resources. Through the analysis and mining of large amounts of data, financial institutions can identify and predict potential risks more accurately, thus improving the efficiency and effectiveness of risk management [9]. In addition, the inclusion of data assets also helps financial institutions to better comply with regulatory requirements and improve compliance.

It should be pointed out that not all data resources of an enterprise can be included in the table. The prerequisite for data resources to be included in the table is not only to meet the recognition conditions of traditional assets, but also to fully meet the data compliance requirements and improve the data management organization and governance system. Therefore, enterprises should attach great importance to the construction of the compliance and governance system of data assets, improve the operation and management capabilities of data assets, and promote the development of data products and data application scenarios, so as to fully tap and release the new value of data assets.

#### **5. Main Challenges Faced by Data Assets Entry into the Statement**

Data asset is a very special "new asset" and

"soft asset", which has new value characteristics completely different from tangible assets, and there are also great differences from intangible assets. Therefore, the accounting treatment of data asset entering the statement, especially subsequent measurement, still faces some theoretical and practical problems that need to be studied and solved.

### **5.1 It is Necessary to Further Activate Data Trading and Improve Data Valuation and Pricing Mechanisms**

As a strategic resource based on data and a new factor of production, if it cannot be fully circulated and traded, it will lose its value and role. By the end of 2022, 48 data trading institutions have been established across China. At present, China's data trading institutions generally show the characteristics of "weak and scattered", such as multiple trading places, weak brand influence, unclear development positioning, single operation mode, operating losses, and difficult to sustain business models. In terms of data trading, there are problems such as small transaction scale, low transaction frequency, difficult to sustain transactions, and low willingness of transaction subjects to participate, resulting in difficult data trading. Data assets are difficult to evaluate and price. Due to the lack of an effective data pricing mechanism, data transactions are prone to supply and demand mismatch, which reduces the efficiency of data transactions, inhibits the release of data value, and makes data resources precipitate in the enterprise and cannot be fully circulated and traded.

### **5.2 It is Difficult to Verify that Data Resources Treated as Assets**

At present, China's current "Accounting Standards for Enterprises - Basic Standards" on the recognition of assets adhere to strict caliber, requires not only to meet the definition of assets, but also to meet the two conditions of asset recognition.

The ownership of data resources will affect whether they meet the definition of assets, and the unique business model, virtuality, value variability, timeliness and related rights restrictions and update frequency differences of data resources. As a result, financial enterprises holding data resources often find it difficult to determine whether the economic

benefits related to the data resources can meet the conditions of "likely" (generally requiring a probability of more than 50%) to flow into the enterprise, especially the data resources generated within the enterprise lack sufficient basis to determine the possibility of future economic benefits flowing into the enterprise.

The second condition for asset recognition is that "cost or value can be measured reliably", but in practice, enterprises often face many "difficulties" in the measurement of data resources:

First, as a new type of virtual asset, data resources have not yet reached a consensus on the unit of measurement, and most enterprises have not yet established a cost management and accounting system for data resources, resulting in the reliability of data resources cost accounting or difficult to meet the requirements;

Second, the "Interim Provisions" stipulate the cost composition of data resources obtained by enterprises through outsourcing and other means, but the data resources generated within enterprises only require separate accounting according to the research stage and development stage, without giving more detailed guidance. Compared with traditional research and development activities, it is more difficult to define and distinguish the research and development stages of data resources, which also leads to greater challenges in the reliability of data resource research and development cost accounting.

Third, how to determine the value of data resources is still a difficult problem. In September 2023, China Asset Evaluation Association issued the "Guidance on Data Asset Evaluation", which pointed out that the evaluation of data assets can adopt the income method, the cost method, the market method or the derivative method of the three methods. In practical application, due to the value variability, virtuality, processability, shareability, dependability and service life uncertainty of data resources, the future economic benefits of data resources are often difficult to verify, and there are great limitations in the application of traditional asset evaluation methods on the new production factors of data resources.

### **5.3 There is the Possibility of Abuse of Data Assets Entry into the Statement and Manipulation of Financial Statements**

The Provisional Provisions provide a path for data resources to enter the table and an opportunity for the value creation of data elements. However, some financial enterprises may manipulate financial statements based on their own special interests: data that does not meet the conditions of legal ownership or control or that cannot bring economic benefits to the enterprise, such as data that does not fall within the scope of application of the Provisional Provisions, are included in the statement [10]; The data resources with low quality, short life and low economic value are packaged into high-quality data resources. Inflated data resource procurement, research and development costs; Use the characteristics of data resources to manipulate the subsequent measurement of data resources; Using asset valuation to manipulate the value of data resources; Using related parties to falsely trade data resources; In violation of the provisions, the relevant expenditure of data resources before the formal implementation of the Provisional Provisions will be retroactively adjusted. Through the use of one or more of the above means, enterprises achieve the purpose of illegally adjusting the scale of data resources and manipulating corporate profits, thereby releasing false information to the capital market, defrauding financial institutions to increase credit, and seriously damaging the interests of investors and business partners.

## **6. Countermeasures for Financial Institutions' Data Assets Entry into the Statement**

### **6.1 From the Policy Aspect, Promote the Construction of a National Unified Large Market for Data Element Trading**

By promoting the construction of a national unified large market for data factor trading [11], a multi-level data factor circulation and trading system is built to form a new quality productivity of data factor.

Relevant government departments should actively build a national unified large market for data element trading, promote the formation and development of a national data element trading market, and build a multi-level data element circulation trading system composed of a national data exchange market, a regional data exchange market, an industry data exchange market and a specific

application scenario data exchange market. Focus on the top-level design to promote the construction of a multi-level data element circulation and trading system, and through the introduction of data element technology public relations and business model innovation incentives, data resource research and development tax incentives, industry talent cultivation incentives and other policies, Guide and encourage enterprises, data exchanges and other data transaction participants to jointly overcome technical difficulties in data elements, innovate business models and circulation mechanisms of data elements, help enterprises enter data resources into the table legally and in compliance with high quality, promote the value added of data resources, and form new quality productivity of data elements.

### **6.2 From the Policy Aspect, Build a Refined Accounting System for Data Resources**

The difficulty of data asset entry into the table does not lie in the accounting treatment after data asset entry into the table, but in the confirmation process of data resources, that is, the compliance and right confirmation of data, the governance and management ability of data, and whether the data has a clear application scenario.

Financial enterprises shall, in strict accordance with the requirements of the Interim Provisions and within the framework of the current Accounting Standards for Business Enterprises, carry out accounting recognition, measurement and disclosure of data resources. Combined with the principles of data resource operation mode and business essence, characteristics and importance of data resources, explore the collection and allocation rules of data resource-related costs, scientifically build a refined accounting system for enterprise data resources, and further standardize the procurement and research and development activities of data resources with the help of a unified data centralized management department and data resource management platform. Realize the tracking and accounting of the whole business chain and the whole life cycle of data resources. In terms of listing and disclosure, financial enterprises shall, in accordance with the requirements of the Interim Provisions, comprehensively balance the importance of data resources, the sufficient necessity of information requirements, the

cost-effectiveness of disclosure and the requirements of commercial confidentiality, based on helping investors, creditors, regulators and other stakeholders to understand the value of corporate data resources and make relevant financial decisions. The implementation of key disclosure, standardized disclosure, full disclosure, so that "disclosure should be listed, all disclosure", "voluntary disclosure, fully innovative disclosure", It enables stakeholders to fully understand the value of enterprise data resources and its output capacity of external value, the mining and application scenarios of data resources, the life or rights restrictions of data resources, and important transactions of data resources.

### **6.3 From the Financial Enterprises Themselves, in Addition to Increasing the Degree of Attention, it is Also Necessary to Establish a Perfect System and Train Professional Teams**

First, we should attach great importance to the basic work of data assets entering the table. Financial enterprises should start the inventory of data resources as soon as possible, take the inventory of data resources as a starting point, sort out the existing data resources, find out the background of data resources, and form a catalog of enterprise-level data resources. At the same time, the data resource management system and related business processes should be fully established. For example, an enterprise can set up an independent data management department or data business operation subsidiary (branch), and even establish a "chief data officer" system to coordinate and promote the data management work of the enterprise. Some head data companies have installed a "chief data officer" who is fully responsible for the management of enterprise data assets and the development of operational strategy.

Second, accelerate the construction of enterprise data compliance and governance system. Compliance is the key prerequisite to judge whether data assets can be entered into the table. Whether an enterprise's data assets can be entered into the table smoothly, it is urgent to solve the problem of legal compliance of data, which requires enterprises to build a set of systematic data compliance governance system, standardize data right confirmation, development and utilization activities, and ensure that data is not infringed

or infringed, and data assets are not lost. In reality, due to the lack of data compliance and governance capabilities, many enterprises have problems such as non-compliance of data sources and low data quality, which cannot meet the confirmation conditions of data assets, and directly affect the entry of data assets and release of value.

Third, it is necessary to study and establish the accounting system related to data assets as soon as possible. Such as the development of data asset accounting system, data asset management catalog, data cost collection and allocation system, and the development of different types of data asset value assessment models based on user demand perspective and data life cycle perspective. At the same time, enterprises should accelerate the exploration and development of specific application scenarios of data resources, and do a good job in the management of enterprise digital transformation and expected benefits of data resources.

Fourth, we should accelerate the construction of data management, technology and finance and other related professional talent teams. We should pay attention to and cultivate a group of composite accounting talents who understand both data and finance, and strive to introduce a group of comprehensive data technical talents who understand both big data analysis and corporate business

### **7. Conclusion**

With the rapid development of digital technology and digital platforms, data elements have become an important part of economic and social development. Finance is a data-intensive investment industry. As an industry with the most complete digital infrastructure, the highest demand for cross-institutional data collaboration, and the most stringent compliance requirements, the financial industry is bound to become the preferred scenario for the application of data elements in the market. Data trading in the financial industry is currently the largest and most mature data trading market in China. As data is the core element of financial business and plays a very important role in the field of financial risk control and marketing, the application of data products in the financial industry is more extensive and intensive than that in other industries. The market for data



products has just pushed financial firms to bring their data assets onto the balance sheet. With their natural data advantages, financial institutions are becoming an important carrier to promote digital transformation and realize the value of data assets. Therefore, activating data resources in the financial industry, forming data assets, and ultimately realizing their value are crucial to the digital transformation of financial institutions and even the development of the digital economy. With the advancement of the digital transformation of financial institutions, the data management mode of financial institutions will gradually evolve from the decentralized management in the past to a more unified and collaborative global management mode, so as to improve the collaborative efficiency of data management and ensure the sustainable development of financial institutions in the digital era.

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