

The Motivation and Market Reaction of Data Resources Included in the “Assets” Subject—Taking DataOcean AI as an Example

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Abstract

Now that the data age is affected by the international situation, countries are paying increasing attention to data resources. At the beginning of 2024, the Interim Provisions on Accounting Treatment Related to Enterprise Data Resources (hereinafter referred to as the Interim Provisions) were issued. In that case, the expense data resources can be categorized under the subject of “assets”. To date, research on data resources included in the “assets” subject remains in its early stages, with most studies only staying at the theoretical level. It is difficult to provide personalized entry practices tailored to different enterprises, so addressing this research gap via case studies is urgent. DataOcean AI exhibits typical characteristics, including a comprehensive inventory of data resources, which is why this paper uses it as an example. First, the motivation for data resources entering the “assets” will be explored. In the following step, the event study is applied to explore the market response to the company’s release of the annual report and the Interim Provisions. The CAR value of the former is positive, but that of the latter is negative. This shows that the impact of an increase in the scale of enterprise transactions is greater than that of policy factors. Finally, the financial situation of DataOcean AI’s data resources is examined, providing a reference for the operation of the same type of companies.

Keywords

data resources, entry motivation, inventory, event study

1. Introduction

Data have been seen as an important economic resource for production and exchange from an early time. DAMA International regards data as the raw material of information, whereas information is data in context (Cleveland, 1982). In 2022, the Chinese State Council issued Opinions on Establishing a Data Infrastructure System to Better Leverage the Role of Data Elements, which listed 20 measures for the safe circulation and utilization of data. The policies reflected the state’s attention to data resources as a new productivity. In recent years, with the rise of emerging technology industries, the number of enterprises in some data-resource-driven or data-intensive industries has surged. To clearly illustrate the real business situation of enterprises and fully release the value of data elements as new productivities, data resources must enter the “assets”. On January 1, 2024, the Interim Provisions were implemented. Therefore, data resources can be capitalized into “asset” accounts. Subsequently, tracked by the Shanghai Advanced Institute of Finance, 100 A-share listed companies

included data resources in the “assets” at the end of 2024. The industries covered have leapt greatly, and many leading companies have also begun to enter data resources into the “assets”.

Data resources included in the subject of “assets” can bring many benefits. First, capitalization increases profits in a disguised form, increasing business turnover and attracting investment. Second, an increase in assets means that working capital by means of transactions, pledges, and financing increases, which is conducive to the normal operation of the enterprise business (Jian & An, 2025). According to signaling theory, information asymmetry hinders investors from directly and accurately knowing the value of enterprises. Especially in the data element market, which has “lemon” characteristics, information transparency is very low, which makes investors’ choices highly difficult. Hence, the process of signal release is very important for such data-intensive enterprises (Yang, 2025). Previous studies have demonstrated that high-quality financial information disclosure can reduce information asymmetry between companies and investors (Ayagi & Salisu, 2023). In this case study, financial reports are used as a signal. To conclude, this paper analyses the financial situation of DataOcean AI and its statements from 2024Q1 to 2025Q1. However, there are still three difficult problems in China’s data resource entry: data confirmation, data security, and value measurement. Given the international status of the United States in the field of data management, its ways of addressing the problem of data resource entry can be referred to. There are dispute bypass, data sharing, security, and accounting standards (Tan & Zhang, 2024). After absorbing international experience, China optimized the path of data resources entering the “assets”. Some research reports have also provided new suggestions for this. First, enterprises should clarify their ability to manage and control data resources, and data resources need to meet the definition of assets. Second, accounting standards and value measurement should be determined. Finally, the intensity of disclosure should be strengthened (Yang, 2025).

However, studies on data resources, including those categorized as “assets”, have not yet been sufficient, and most of these studies have focused only on the theoretical level. General theory cannot guide enterprises of all characteristics to modify statements. Without specific and practical reference, enterprises find it difficult to overcome some data shortcomings, resulting in inaccurate financial reports and frequent adjustments. Consequently, investors cannot correctly estimate the real value of enterprises. There were seven companies issuing instructions for statement changes in the first quarter of 2024. Three of them delete data resources directly, whereas the rest transfer them directly to “contract assets” (Liu et al., 2022).

Taking DataOcean AI as a case study, this paper analyses the characteristics of the company, the adaptability of data resources to the balance sheet, and the financial situation of the company. Then, the event study and statement ratios are used to study the market reactions. This approach will provide practical significance for other enterprises that want data resources to be correctly entered into the “assets”.

2. Case Introduction

DataOcean AI is a typical data-intensive enterprise. As the first main board listed company in the AI data industry, DataOcean AI is committed to providing AI data sets and services for AI enterprises and R&D institutions. Hence, it keeps rich data resources. DataOcean AI has overcome many key obstacles to the entry of data resources, creating favourable conditions for the entry of data resources into “assets”. First, it overcomes the problem of data confirmation. DataOcean AI data resources are self-developed, and there is no dispute over data sources. Second, it overcomes the problem of data security. The entire supply chain is independently controlled by the company, effectively avoiding the risks of data leakage and infringement. Third, the problem of value measurement was solved. According to the inventory standard, on the balance sheet date, the inventory’s book value is measured at the lower cost and net realizable value (hereinafter referred to as the NRV). The inventory cost of the data resources is measured in terms of labor cost and material cost. For NRV, owing to the business model of customized services and standardized products, the market value of data resources can be accurately estimated. Accordingly, the book value of data resources can be accurately obtained.

Table 1 presents the key individual data resources in DataOcean AI’s 2024 financial statements. More detailed disclosure increased the credibility of the amount of data resources. The book value of all key individual data resources is equal to their NRV. This suggests that the NRV may be lower than the actual inventory cost of the data resources. The important business of the enterprise might depreciate to a greater extent. In contrast, the stock price has risen. To summarize, the assumption is not valid. The enterprise might

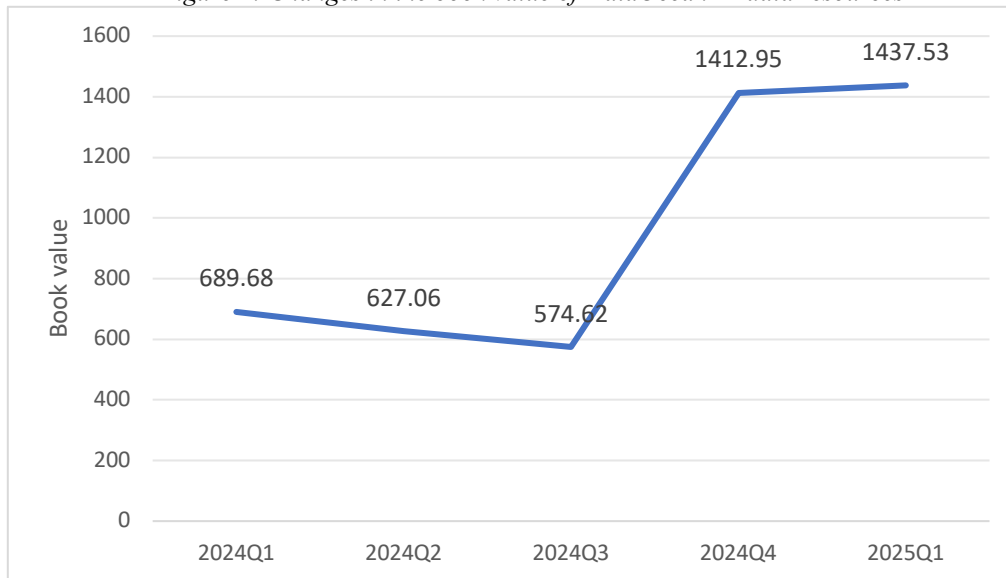
learn from Haier's "Rendanheyi" model. The salary of employees in the enterprise is linked to the personalized projects they are responsible for, which reduces the gap between realized value and cost (Liu et al., 2022).

Table 1: Important single data resources of DataOcean AI

Content	Unit: 10 thousand yuan	
	Book Value	Net Realized Value
High-quality general graphic data project	204.36	204.36
Content Moderation (CM)-2024~12 project	171.09	171.09
HDG general scene video, no description data set project	85.33	85.33
Generic scene video, no description data set project	64.80	64.80
total	525.58	525.58

According to Figure 1, in the first three quarters of 2024, the book value of DataOcean AI data resources fluctuated only slightly. However, in the fourth quarter, the scale of the data resources increased significantly, reflecting the characteristics of hoarding. This occurred because DataOcean AI mainly undertook large-scale and long-term projects during the reporting period. The vigorous expansion of business in the fourth quarter of 2024 also provides ideas for the selection of the event date through event study.

Figure 1: Changes in the book value of DataOcean AI data resources



unit: 10 thousand yuan.

The motivations for the entry of data resources into "assets" include policy, the endogenous demand of the enterprise, the adaptation of data characteristics, and so on. First, there are policy drives. The Interim Provisions put forward requirements for the disclosure of data resource entry, forcing enterprises to adjust their own statements. DataOcean AI regards data resources as inventories, which are within the scope of policy (Jian et al., 2023). After the promulgation of the Interim Provisions, DataOcean AI directly disclosed data resources in its statements for the first quarter of 2024. Compared with other leading companies, such as Tsinghua Tongfang, which disclosed in the 2024 semiannual report, it responds to the call of the policy more efficiently. Second, the endogenous demand of the enterprise increases. The disclosure of data resources reflects the status of enterprises in the data factor market. As a crucial process for signal transmission, corporate statements help reduce information asymmetry and expand financing opportunities. This is followed by the accumulation of the enterprise's capital to meet business expansion needs. The demand, in turn, increases capital accumulation, fostering a virtuous circle. Third, the data characteristic adapts to the policy. DataOcean AI has overcome the three major problems of data resources entering "assets": the confirmation of rights, security, and measurement. As one of the early AI data training enterprises, DataOcean AI provides personalized services with strong professionalism. This is the reason why its record of data resources is more skilled and perfect.

3. Market Reaction

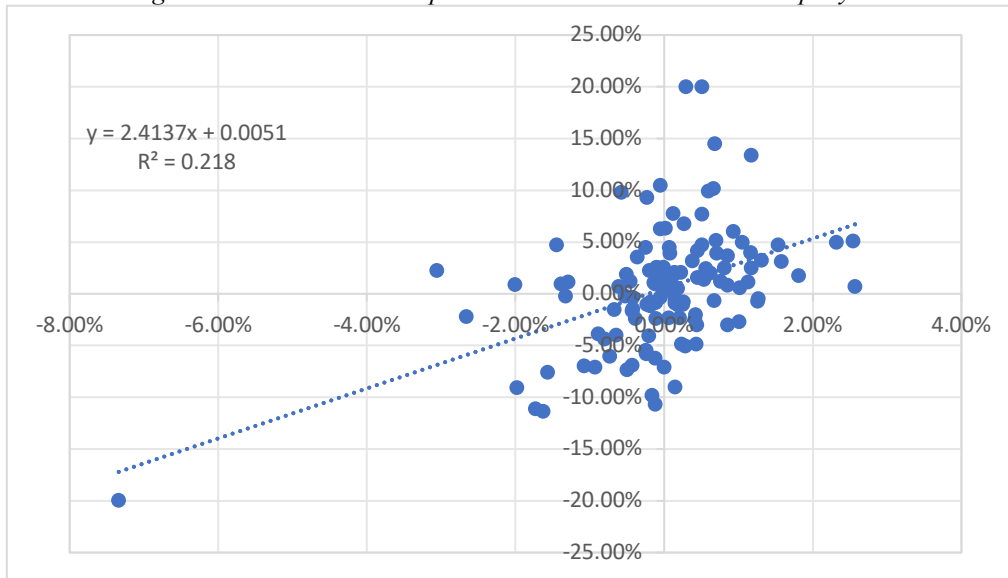
3.1 Research on the Annual Report of 2024

Owing to large-scale and long-term projects in the fourth quarter of 2024, the book value of data resources surged. To present the market response intuitively, this study applies the event study method to explore the impact of data resource entry on a company's financing opportunities. Moreover, financial statements and related information play important roles as carriers of signal transmission, so their market effects deserve special attention.

First, April 26, 2025, the publication date of the 2024 annual report, is selected as the event date. If the event date is not a trading date, the first trading date after the event date is taken as the event date. Second, the event window and the estimation window are determined. The event window period is (-2, 2). According to previous studies, the estimation window period is 120 days, namely, (-3, -122) (Liu et al., 2020). Finally, the cumulative abnormal return (hereinafter referred to as the CAR) value is calculated. As the liquidity of DataOcean AI stocks meets the model assumption, this event study is suitable for the market model. Calculate the expected corporate rate of return ($R_{i,t}$). The formula is shown in (1), where α_i is excess return, β_i is market risk, $R_{i,t}$ is the yield of stock i on day t, and $R_{m,t}$ is the yield of the market on day t. The least squares method is performed for each stock, as shown in Figure 2.

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \epsilon_{i,t} \quad (1)$$

Figure 2: Linear relationship between market returns and company returns



After the estimated coefficients $\hat{\alpha}_i$ and $\hat{\beta}_i$ are obtained, the abnormal rate of return ($AR_{i,t}$) can be calculated via Formula (2):

$$AR_{i,t} = R_{i,t} - (\hat{\alpha}_i + \hat{\beta}_i R_{m,t}) \quad (2)$$

The CAR value is calculated, where t is the time in the event window period. The CAR value is the sum of the abnormal rates of return of the company in the (-2, 2) period. The following formula (3) can be used:

$$CAR_{(t_1, t_2)} = \sum_{t=t_1}^{t_2} AR_{i,t} \quad (3)$$

The final calculated CAR value is 0.12. Since the sample only includes DataOcean AI (a single enterprise), the statistical significance of the CAR value cannot be verified through a t test. However, given the background of the expansion of data resources, the market showed a positive reaction to DataOcean AI when the annual report was released in 2024. The reason might be that DataOcean AI has expanded its data inventory for larger transactions, indicating that the company will earn high income in the future. Investors valued corporate profits ahead of time and bought at a low price when they were unprofitable.

3.2 Research on the Promotion of Interim Provision

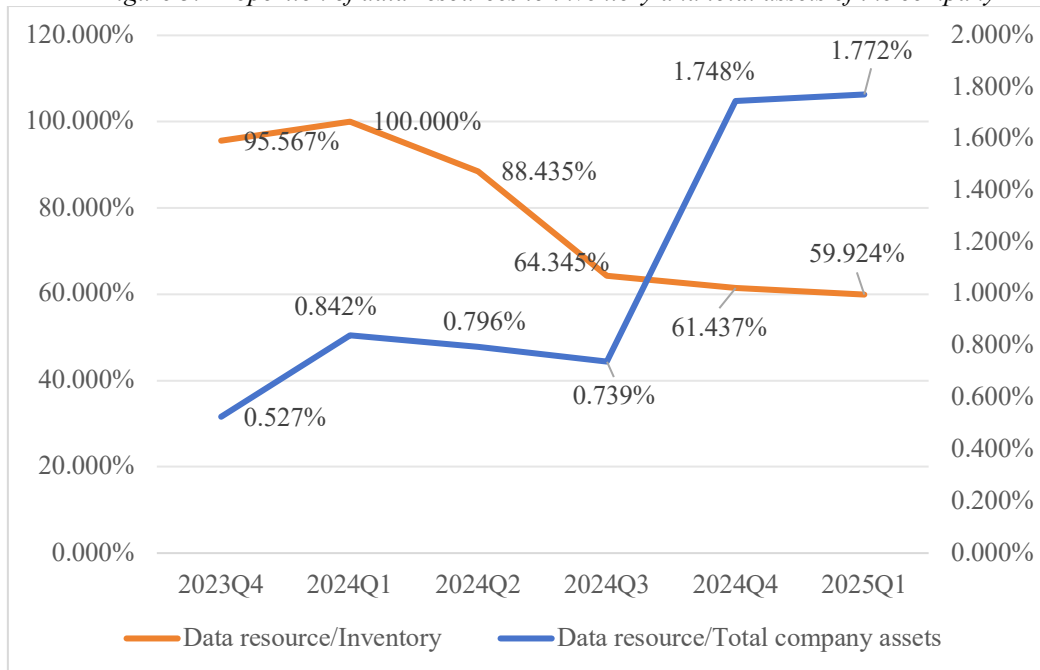
Owing to the promulgation of the Interim Provisions, the overall structure of the statements needs to change. Some companies change data resources from expenses to assets, which not only increases assets but also reduces expenses and increases profits. The statements show good business results and have the potential to attract financing (Liu et al., 2023). However, because of the uniqueness of DataOcean AI business areas, companies' data resources remain capitalized. Therefore, this paper explores whether the issuance of Interim Provisions, as an external factor, has released a good signal to a company whose statement structure has not changed.

The event date is changed to the policy release date. If the event date does not belong to the trading date, the first trading date after the event date is taken as the event date. Then, the above event study is repeated. The CAR value is - 0.03. Unexpectedly, the issuance of the Interim Provisions did not result in a good market reaction, possibly because the new accounting standards did not change the general structure of the DataOcean AI statements. Therefore, if there is no change in operating expenses and profits on the statement, it is difficult to attract a large amount of financing.

4. The Impact of Data Resources on Financial Performance

First, we analyse financial performance vertically. The initial balance of data resources is 4.3428 million yuan, which is a revised figure from the second quarter. The data are from DataOcean AI's consolidated balance sheet. As shown in Figure 3, the proportion of data resources in the company's total assets increased. This shows that the company's business scale has expanded, and the number of trading partners has also increased. However, the proportion of data resources in the inventory continued to decline. On the one hand, this might reflect the expansion of the company's business types. On the other hand, because the company entered new business areas through the acquisition of subsidiaries, it was no longer limited to the AI data training business (Zhu et al., 2025).

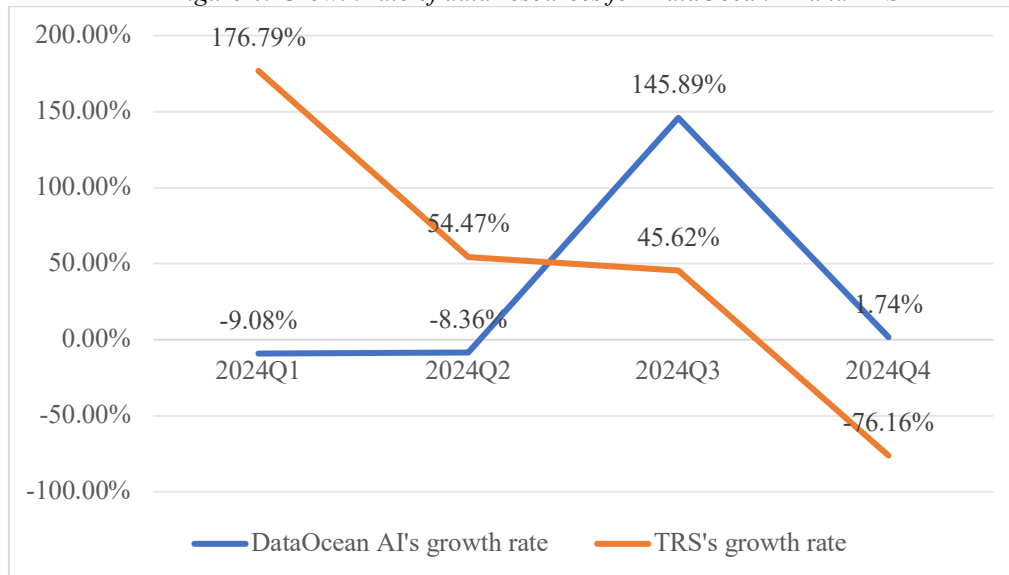
Figure 3: Proportion of data resources to inventory and total assets of the company



In addition, we analyse financial performance horizontally. TRS and DataOcean AI have a high degree of market overlap, and both are among the earliest AI training data service providers in China. Thus, a horizontal comparison between the two companies is reasonable (Zheng et al., 2024). This paper compares the growth rate of data resources between two companies to eliminate the disadvantage of large differences in asset amounts. As shown in Figure 4, for the TRS, its data resources first increased but then decreased, with the increase rate gradually slowing down and the decrease rate increasing. For DataOcean AI, its data resources

first decreased and then increased, with a slow decrease rate and an increase rate that first increased and then slowed. In short, the data resources of DataOcean AI still have an increasing trend in the later stage. The enterprise still attaches great importance to the data element market. Compared with top companies, DataOcean AI has better prospects for data resource development and stronger specificity. Furthermore, for the entire data market, the growth rate in data resources tends to be uniform, indicating the impact of the Interim Provisions at the macro level.

Figure 4: Growth rate of data resources for DataOcean AI and TRS



5. Conclusion

On the basis of the above two event studies, this paper indicates that, for investors, a company's internal factors are more likely to attract financing than are external policy factors. Although the policy encourages the development of digital resources, investors will not act rashly if the expected profits are not reflected in the statements. For companies that use data resources as inventory, although they can adapt quickly to new accounting standards, they will not attract greater investment. Only by expanding corporate business and winning large-scale transactions can the market tilt. In addition, in terms of data entry motivation, in addition to external and internal factors, a clear entry path is also one of the important reasons. DataOcean AI's data resources have accurate costs and the NRV, so data resources can be easily included in the "assets". However, for those enterprises that include data resources in "intangible assets", the historical cost measurement constraints and subjective factors of data resources are too strong, so they can follow the method of inventory, give pricing to the market, and use fair value measurement.

Most enterprises regard data resources as "intangible assets". This paper provides a new perspective for data resources to be included in the "inventory". This paper also uses a practical example to supplement theoretical research and provides personalized enlightenment for enterprises. The limitation of this paper is that the number of such companies is small, so the event study method cannot be used for a t test. After more companies disclose the data resources in their inventory, the research results will be more accurate. Future studies may conduct a deeper analysis of how different companies' data resource disclosures influence market responses.

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Conflicts of Interest

The authors declare no conflict of interest.

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