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The Impact of Big Data Technology in the Financing Field and Countermeasures Analysis

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Abstract

Against the background of promoting the sustained recovery of the national economy, the State has gradually increased its support for small and micro enterprises. In addition to policy support, enterprises as the main body should actively seek changes to resolve financing difficulties, combined with the current digital economy and the development of big data technology, enterprises should also from the external and internal perspectives of their own data construction and access to financing channels to make thinking. This paper analyzes the impact of big data technology on enterprise financing to draw out the opinions and suggestions on enterprise data management and system construction, reveals the mechanism of the impact of big data on enterprise financing, and expands the research on the application of big data.

Keywords

Big data applications; financing decisions; institution building.

1. Introduction

With the continuous development of statistical analysis technology in recent years, the scale of data derived from algorithms has also been increasing, and the emergence of high-tech fields such as big data and artificial intelligence has continuously injected new impetus into the development of the economy and society. At present, China is experiencing a critical period of economic transformation, the new development pattern of domestic and international double cycle is being constructed, and the market is gradually recovering vitality from the impact of the new crown epidemic. In order to better realize the virtual financial services in the real economy and release the new kinetic energy of economic development, it is necessary to better utilize big data to solve the problems in development for enterprises. At this stage, enterprises in the traditional financing model encountered in the "financing difficulties, financing expensive" and other issues have not been resolved, the development prospects are increasingly severe. This paper will analyze the impact of big data on enterprise financing from two perspectives: the enterprise itself and the external environment, and provide suggestions on how enterprises can use big data technology to broaden new financing channels and strengthen their own financing ability.

2. Development Status and Financing Trends of China's Big Data Industry

2.1 Current status of big data development

In the era of digital economy, big data technology has developed rapidly, and new technologies such as artificial intelligence, VR, 5G, blockchain and other new technologies are converging and integrating, continuously accelerating technological innovation. The rise of the big data industry is accompanied by a boom in the construction of new smart cities and digital cities, and with the transformation and upgrading of the real economy, the big data industry has shown a trend of high growth worldwide. Governments have introduced relevant policies to actively promote the development of big data industry. Big data technology is widely used in various fields, and many industries use big data analysis to improve operational efficiency, reduce costs, and optimize decision-making. Overall, the big data industry has a bright future, but it also faces some challenges, such as data security, privacy protection and other issues. With the continuous progress of technology and policy, the big data industry is expected to continue to develop rapidly and bring more opportunities and changes to the economy and society.

2.2 Current status of big data applications in financing

China's financing market is huge in volume and rich in informative data, and according to the National Bureau of Statistics, the stock of China's social financing scale has been rising year by year.

Table 1: Stock and growth rate of social financing

Year	Stock of social financing scale (RMB billion)	Year-on-year growth rate of social financing stock (%)
2014	1229386	14.3
2015	1382824	12.5
2016	1559884	12.8
2017	2059098	14.1
2018	2270356	10.3
2019	2514071	10.7
2020	2847526	13.3
2021	3141163	10.3

Data source: China Statistical Yearbook 2022

The application of big data technology in financing is currently advancing in the following areas:

(1) Risk assessment

Financing institutions can analyze a borrower's credit rating through big data technology. By integrating and analyzing the borrower's historical data, transaction records, social media and other multi-dimensional data, the institution can accurately assess the borrower's repayment ability and risk level, so as to make more informed financing decisions.

(2) Media opinion monitoring

Data analytics technology allows real-time monitoring of public opinion information in social

news media to understand market and industry dynamics. This helps organizations better grasp investment opportunities and avoid risks in order to make the right response.

(3) Asset pricing

Big data analytics can help financing institutions price assets more accurately. By analyzing multi-dimensional information such as market data, industry data, and historical trading data, institutional investors can better understand the value of assets and make reasonable pricing strategies based on this information.

(4) Innovative financing models

Big data technology provides support for innovative financing models. Through data analysis of users' consumption habits and credit records, financing institutions can provide personalized financing products and services to meet users' specific needs.

(5) Risk management

By analyzing large amounts of data, organizations can predict the likelihood and impact of risk events and take appropriate risk control measures to reduce the probability of risk occurrence.

3. Analysis of the Impact Factors of Big Data on Corporate Finance

3.1 External level

3.1.1 Big data improves financing conditions for businesses

Lenders of funds have difficulty in understanding the financial situation, operating results and other information of enterprises due to insufficient and asymmetric information, so they can only prescribe financing programs on standard financing terms to reduce the risk of bad debts. Harsh financing conditions can make it difficult for enterprises that have good development prospects but lack the supply of capital to raise the funds they need, resulting in credit discrimination.

With the development and application of big data technology, capital lenders can make use of the characteristics of big data, such as "online" and "fast processing speed", and rely on cloud computing and other big data processing technology to reduce information asymmetry and improve risk pricing ability through data screening and capturing data footprints.

Enterprises in external financing can rely on its refined big data analysis system to show the advantages and disadvantages of the business situation to the lender of the enterprise funds, to show its strength in risk control and other aspects [1]. Through the management of big data can improve the confidence of external organizations for the business prospects of enterprises.

3.1.2 Big data enriches access to finance for businesses

Traditional financing channels with their high audit requirements are difficult to meet the financing needs of enterprises in a timely manner, which may easily lead to the interruption of the flow of enterprise funds. On the one hand, in order to meet the low-cost expansion of innovative products and services; on the other hand, in order to accurately obtain the real

operating conditions and financial results of enterprises, many new financing channels have emerged in recent years, such as the financial leasing industry, crowdfunding, supply chain finance, and other big data applications, which have formed a useful supplement to traditional financing channels. Some commercial banks have adopted different financing strategies for enterprises at different stages, which have also greatly alleviated the pressure on enterprise financing [2].

3.2 Internal level

3.2.1 The Benefits of Big Data in Corporate Finance Decisions

(1) Effectively addressing information asymmetry

Enterprises can establish a set of real-time data analysis system based on information technology, fully integrating all aspects of supply, production and sales. Realize the real-time supervision and control of logistics, capital flow and information flow with systematic management thinking, realize the parallelism of online and offline dual regulations, and help the decision-making layer make reasonable decisions. Realize the effective control of enterprise information flow and enhance the competitiveness in financing negotiations.

(2) Mitigating under-securitization through data

While data serves as the raw material for enterprises to conduct business analysis, it is also endowed with the attribute of an asset, and the data after assetization has the possibility of being secured. Enterprises can use detailed data or the right to access data that meets the conditions for assetization as collateral, which can effectively alleviate the problem of insufficient security for enterprises. The borrower thus also obtains the right to obtain detailed data of each transaction link of the enterprise, which can ensure the authenticity and profitability of the transaction, thus avoiding certain erroneous investments and enhancing the confidence of the guarantor in the guarantee.

3.2.2 Big data can effectively reduce enterprise financing costs

Under the traditional financing model, the information transmission efficiency is slow, the effectiveness of information is difficult to be guaranteed, and the borrower and lender of funds must be realized through a third-party institution. With big data as a booster, enterprises and capital lenders are more closely linked, and a large number of private capital will have the opportunity to participate in market transactions. The application of big data technology can sufficiently improve the innovation efficiency of enterprises [3]. Due to the general application of big data analysis, the threshold of financing and transaction costs will be effectively reduced, which will help enterprises to reduce financing costs from the side.

4. The Opportunities and Challenges of Big Data for Corporate Finance

4.1 Big data aspects

4.1.1 Data quality requirements

The premise of data assetization is that the data must be able to generate revenue for the enterprise, and the premise of generating revenue is that the data must be of sufficiently high quality. Improving and enhancing data acquisition systems to ensure data integrity and

availability is a top priority for enterprises. Data quality requirements are particularly important not only in the assetization process, but also in the credit-related business of enterprises. With the continuous development of the market credit system, enterprises in non-financial industries can also participate in the construction of the financial market credit system through digital transformation, and all these institutional changes will put forward higher requirements on the quality of enterprises' big data. The data provided by any disclosure platform for use in financing activities must ensure that its data objectivity is not contaminated [4].

4.1.2 Data security requirements

The application of big data will not only bring all kinds of convenience, but also create all kinds of security problems. Any leakage of business data and loss of user data will have a huge impact on the operation of enterprises. Data security not only means that the enterprise's own data security, but also embodied in the entire financing process, for the financing platform, you can establish a data security monitoring mechanism, make a reasonable assessment of the enterprise's operating conditions and repayment ability, and reduce the financing risk [5]. Data security, as a strategic factor that cannot be ignored in the business activities of enterprises, requires that enterprises must enhance the degree of information concentration, improve the information collection, management, application and other aspects of the security barriers, and establish a sound data communication channel with the financing platform, in order to ensure the security of the platform transactions.

4.1.3 Data management requirement

Enterprises should establish their own big data management system, improve their own data analysis capabilities, and provide data support for the daily management of the enterprise and external financing. The value of data management is reflected in the whole industry chain, big data can distinguish between different sources of risk for targeted management [6], and the mode of data management will directly determine the effect of risk control.

4.2 Big data institution building aspects

4.2.1 Strengthening the talent pipeline

The key to whether data can play its role in supporting financing lies in the mining of the commercial value of data. The application of big data technology to realize the automation, standardization and intelligence of financial business is the future direction of development [7]. Although the current informationization construction has begun to bear fruit, the construction of a team of big data credit collection talents with a composite background in finance and science and technology is relatively backward.

On the one hand, the enterprise can introduce technical talents with professional data analysis ability externally; on the other hand, the enterprise can combine its own reality and needs to continuously improve the data analysis and processing ability of its employees. Only by combining big data, cloud computing and other technologies with specialized knowledge such as enterprise financing, and walking out of a road that belongs to their own development requirements, can they meet the talent needs of enterprises for external financing.

4.2.2 Appropriate use of new sources of financing

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The arrival of the big data era has had a huge impact on the data-intensive financial industry, and based on this change, the financial industry has had to innovate its institutional model. In order to improve the level of financial services and the efficiency of financial data utilization, financial institutions have innovatively proposed many new financing models, which objectively reduce the financing cost of enterprises. Enterprises should consider various financing channels comprehensively, break through the traditional constraints, and choose the optimal financing channel oriented by cost and risk.

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