

The Choice and Innovative Development of Enterprise Financing Methods in the Big Data Environment

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Abstract: With the trend of innovation and entrepreneurship and the support of national policies, small and medium-sized enterprises have sprung up in recent years, and in this process, financing problems have always existed with the birth of enterprises. Capital is the blood of the enterprise, is the necessary condition for the enterprise to carry out and maintain business activities, there is not enough funds, the survival and development of the enterprise is difficult to be guaranteed, in this process, financing is an indispensable and important link of each enterprise. In the financing process, this paper is mainly based on external financing, whether it is for the demand side of funds or the supply side, it is necessary to grasp a certain amount of data and information to make decisions, in the big data environment, this is undoubtedly both an opportunity and a challenge, big data analysis to obtain a full range of multi-level data to more systematically analyze the cost-effectiveness of enterprises, company value, etc. At the same time, how to rationally use big data and how to reasonably choose financing methods to help enterprises successfully raise funds is a problem that every enterprise needs to pay attention to. Based on this, this paper gives relevant analysis and suggestions on the choice of financing methods in the modern enterprise big data environment in view of the problems faced by the development of the enterprise financing model.

Keywords: Financing Big Data; Internet Finance; Supply Chain Finance; Exogenous Financing

1. Introduction to corporate financing in the big data environment

In 2013, "big data" was pushed to a new height by Internet finance. As the Internet finance industry enters the 2.0 era, the competition of major Internet companies is becoming more and more fierce, and the high-quality services of big data finance represented by platform finance and supply chain finance have become valuable resources for the development of various enterprise platforms. These have created opportunities for enterprise financing, big data is not only the "data" cloud computing, many big data risk control models, the creation of risk control technology makes the risk control measures of enterprises in financing or other financial activities more targeted and time-sensitive, thereby reducing management costs. Although the big data environment brings many opportunities for enterprises' business activities, at the same time, because the current development of big data is relatively in a preliminary stage of development, many drawbacks may be exposed in practical applications, such as negative events in the storage transaction link during data collection, technical problems in the development of big data finance, and so on. Financing and capital security are inseparable, so choosing a reasonable financing method and appropriately and prudently adopting big data technology is the focus of most enterprises' production and operation.

2. Corporate financing requirements

For an enterprise, financing should pay attention to the comprehensive economic benefits of capital raising. Specifically, before financing, enterprises need to carefully analyze the financing environment and conduct careful research on capital needs, so as to improve the ability to adapt to the follow-up environment and strive to improve the financing effect; rationally choose financing methods and strive to reduce the cost of funds; and finally, they can obtain funds in a timely manner to ensure the need for capital. Specifically, for enterprises at different stages, the choice and focus of financing methods are also different, which requires

strengthening the supervision of enterprises and big data analysis. The follow-up analysis will be based on some suggestions for the choice of financing methods based on the four periods of growth, maturity, recession and withdrawal.

3. The choice of financing methods for enterprises at different stages

For an enterprise, financing should pay attention to the comprehensive economic benefits of capital raising. Specifically, before financing, enterprises need to carefully analyze the financing environment and conduct careful research on capital needs, so as to improve the ability to adapt to the follow-up environment and strive to improve the financing effect; rationally choose financing methods and strive to reduce the cost of funds; and finally, they can obtain funds in a timely manner to ensure the need for capital. Specifically, for enterprises at different stages, the choice and focus of financing methods are also different, which requires strengthening the supervision of enterprises and big data analysis. The follow-up analysis will be based on some suggestions for the choice of financing methods based on the four periods of growth, maturity, recession and withdrawal.

In the growth period, as mentioned above, due to the existence of many problems such as immature development and reasonable governance structure, the cash flow generated is not enough to meet the needs of business growth, so there is a cash shortage, and there is a lack of collateral, such as applying for financial leases or long-term borrowings, which have certain difficulties in financing creditor's rights and may face the risk of high debt interest rates. For growth-stage companies, equity financing strategies or convertible bond financing strategies are often used; for mature companies, all they need to do is maintain this situation and better use cash surplus to create more value for the business. Compared with the growth stage of enterprises, enterprises in the mature stage of their organizational structure is relatively perfect, the internal management mechanism is also relatively good, and the experienced financing channels are wider, at this stage, the issuance of bonds for a wider range of financing, different from long-term borrowing, it can create more value for enterprises in the case of prolonging the existing situation as much as possible. In addition, warrants are flexible and can facilitate other financing activities. Recession-era companies usually have a relatively surplus cash flow to maintain their status quo but do not add value to the enterprise. If the enterprise at this stage maintains the status quo and continues to develop, it may fade out of vision and gradually derail with the financial market, otherwise it will need to transform its product and enterprise form, enter a new product field, regain a new life, and rejuvenate its new vitality and vitality. Some asset guarantees, surviving financial leasing, bank loans or venture capital are relatively common financing models; enterprises in the withdrawal period, as the name suggests, have been prepared to withdraw from the market, often the enterprise has been unable to partially adjust, in order to reduce losses, usually make adjustments to sell part of the structural units to make up for the losses or raise funds to ensure the development of other structural units.

In addition to the differences in the choice of financing methods at different stages of the growth process of enterprises, the structural type of the enterprise, the profitability of the operating results and the corporate image also have a certain impact on the choice of financing methods of the financing party and the investment of the investor. In order to reduce the risk in the financing process as much as possible, most enterprises often use a combination of different financing methods, which can not only reduce the risk through the combination, but also increase the probability of financing success to a certain extent and then complete the financing objectives to promote the reform and development of enterprises. At the same time, the problems faced by enterprises in the financing process are not only their own factors, but also the improvement of the accuracy of information collection and the system in the financing process. Nowadays, with the continuous development of big data technology, the financial model is also constantly changing, and traditional financial enterprises have achieved innovation and optimization, and actively integrated with Internet technology, giving enterprises new opportunities and challenges for financing.

Table 1 corporate financing

Stages of business growth	Choice of financing method
Growth period	Equity financing, convertible bond financing
Maturity period	Issuance of bonds, with warrants attached
Recession period	Asset-backed, surviving financial leases, bank loans or venture capital

Retreat period	Some structural units are adjusted and sold to cover losses or raise funds
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4. Existing problems in enterprise financing in the big data environment

4.1 Improvement of the Internet financial financing service system

Internet enterprises enter the financial industry, based on the Internet big data and convenient information flow and the innovation of credit reporting means, technically solve the bank can not efficiently cope with the risk diversification and diversification of small and medium-sized enterprises, improve transaction efficiency and reduce financing costs. The essence of financial services is to provide a bridge link between the provider of funds and the demand side of funds so that both sides can understand each other well, and this service is in line with the requirements of the market economy. For enterprises, creating a good financing service system has a great role in promoting the establishment of their own image. Improve the financing service system, enhance the financing capacity of enterprises, if enterprises can use the Internet platform in the big data environment to create a communication, liaison and feedback mechanism, find problems and improve problems, strengthen information exchange with banks, financing institutions and other financial systems, improve the liaison system, attach importance to information feedback and make a reasonable and timely feedback mechanism, to provide a good platform for the occurrence and progress of financing behavior. Especially during this period of time, the economic development of enterprises is facing a great crisis, most short-term loans have been unable to meet their operations, can not understand the needs of different enterprises, and on the contrary, if we strengthen information communication and feedback to collect information in a timely manner, improve the relevant service system, and strengthen confidence, can this problem be alleviated? At the same time, Internet finance can also analyze and integrate the different personalized needs of financiers to create a better solution. With the development of big data technology and the improvement of the Internet, corporate financing will also glow with new vitality and vitality.

4.2 Improvement in the accuracy of data searches

Financing requires forecasting the amount of funds needed, which requires a high degree of extensiveness and accuracy in the collection of relevant data and confidence of enterprises. In the process of financing, the most common problem is the asymmetry of information, one is that the bank lacks effective channels to understand the real operating conditions, credit level and repayment ability of the financier's enterprise; the other is that the enterprise cannot choose the most suitable financial products or financial services according to its own needs. The big data technology in the information data collection and integration of the performance of the more prominent advantages at the same time on the search process of the quality of the data there are certain loopholes, although many of the big data finance business is through the Internet by the computer to perform, but the original data statistics and entry are manually completed, which inevitably will appear deviation error, which will affect the output of subsequent results and the evaluation of enterprise related information. While big data technology is still gradually developing, how to find and eliminate erroneous data information in time when data is calculated is also a problem that needs to be faced.

4.3 Upgrade of the decision-making judgment system

Financing decisions are an important part of corporate financial decisions, its importance is self-evident, the implementation of financing decisions plays an important role in the development of enterprise operations, related to the subsequent development of enterprises, it can be said to be crucial. In traditional financial financing, most managers rely on subjective experience to make financing decisions, supporting their experience is the so-called large amount of financial data, this decision-making mode with a strong subjective consciousness, managers often ignore the hidden data, this one-sided subjective decision-making can not guarantee the effectiveness and enforceability of decision-making, in complex cases may not only make the business situation to be improved or even the occurrence of business crises and other conditions. Based on the vigorous development of new technologies such as big data, enterprises should update and develop their own decision-making and judgment systems in a timely manner, subjective experience certainly has a certain role, but the assistance of new technologies and methods will make decision-making more effective and reasonable, improve the application value of information data, reduce the dependence of enterprise financing methods on the

subjective judgment of managers, and avoid business crises caused by decision-making errors as much as possible.

4.4 Financial risk management and control

The generation of financing risks comes from many aspects, such as the unscientific scale of financing, the lack of reasonable proportion of enterprises according to their own situation, the improper structure of the source of funds or the improper choice of financing methods and time. It is objective in the financing process, is uncertain, but to a certain extent is measurable. Risk is inevitable, the application of big data technology in financing also has a lot of loopholes and drawbacks, such as the integrity and privacy of data, the operation and protection of algorithms, etc., how to prevent data security to avoid privacy leakage There is still a lot of room for improvement; in addition, the measurement of financing risks and financing decisions in most cases rely too much on personal market experience, even if a more comprehensive big data analysis technology is introduced, the compilation of its algorithms also requires manual operation. Therefore, reasonable monitoring to prevent financial risks and make timely and effective responses require strict requirements for the algorithm research and development designers or programmers at the source, and at the same time, government supervision is also indispensable. At the level of improving the management and control of financial risks, the formulation and compilation of big data financial algorithms, the formulation of relevant standards, and the protection of data privacy integrity all need to be solved urgently.

5. Solutions and method selection

5.1 Strengthen information communication and improve feedback mechanisms

"Block chain" is a very common term in recent years, its advantage is that it can effectively solve the trust problem between points and the sharing of data information, etc., although there are certain privacy security and technical risks in big data block chain technology, but this has an indispensable positive impact on information communication, data coverage docking and standardization, etc., improve the efficiency of information communication, and to a certain extent, can make up for the shortcomings of data security and storage security of centralized institutions in big data technology through the control of data security. Reduce the problem of information asymmetry between financial institutions and enterprises.

5.2 The whole process collects data to ensure the security of internal and external information

There are many intrinsic values hidden in Internet financial data, which are highly exploitable. As mentioned above, the collection of data has a very important role in the formation of financing decisions, to some extent, the collection of data is directly related to the final financing results, to solve the asymmetry of information on the one hand is to strengthen information communication, on the other hand, the need for data comprehensiveness and know ability between financial institutions and enterprise batches. Therefore, it is particularly important to establish a data collection system for the whole process, and conduct comprehensive and accurate analysis according to the results of data analysis, so as to improve the effect of financing cost control. In addition, ensuring the quality and integrity of data is also a link that needs to be strengthened and improved in data collection technology, not only big data "big data +" can make up for the shortcomings of big data and show the advantages of the other party. For example, according to the different levels of financing enterprises or the needs of funds and other personalized characteristics of the construction of hierarchical classification control system, differentiated collection, not only can save some unnecessary steps, streamline the operation process and algorithm, so as to better control and get satisfactory results.

5.3 Establish a good image and improve 3D information (ESG)

Establishing a good corporate image, especially in the open market environment, a good corporate image has a "façade" role for corporate financing. With the vigorous development of various types of enterprises, for most financial institution investors, more and more attention is paid to the comprehensive information of the enterprise, which is not only limited to the two-dimensional information level such as the company's operating conditions and reputation level, the investor's attention to ESG reflects the comprehensiveness and importance of the corporate image. ESG is an investment philosophy and corporate evaluation standard that

focuses on the environmental, social, and governance performance of enterprises rather than financial performance. Based on this, investors can observe the ESG performance of an enterprise, evaluate its investment and financing behavior and the contribution of the enterprise in promoting sustainable economic development and fulfilling social responsibilities. The disclosure of ESG information by enterprises cannot be too broad, which is also the place where market supervision needs to pay attention to at present, and it cannot just start from its own favorable angle, which is also easy to create an impression of "fake big short" for banks and other financial institutions. Internal and external collaboration makes information transparent, which not only helps the dissemination of ESG concepts, but also creates a good market financing environment.

5.4 Upgrade the risk control system and improve supply chain finance.

Supply chain finance refers to the financial institutions such as commercial banks by linking the core enterprises with the capital flow of upstream and downstream enterprises, dispersing the risks in the supply chain chain, thereby reducing the risk of individual enterprises, integrating them into controllable risks of supply chain enterprise groups, and controlling the risks at the lowest level of a financial service. This new type of financing method provided through supply chain finance can enable banks and other financial institutions to participate in the supply chain themselves, and provide financing services for other members of the system through core enterprises, which can expand their own business channels to reduce costs or even help some small and micro enterprises to extend a helping hand to them in a timely manner. For financial institutions, full participation also means that the mastery of information can better understand the enterprise, reduce their own investment risks, and for the financing party, reduce their own financing risks by implementing the concept of risk diversification. The development of any new technology is gradually perfected in the "crawling and rolling", supply chain finance has the disadvantage of "partial generalization", for financing enterprises, the crisis of the core enterprise may make the entire supply chain appear "domino" like effect, increase financial risks, the lack of strength of other small and medium-sized enterprises on the chain affects the financing effect, etc.; for banks and other financial institutions, the operation is not prudent, the assessment is not comprehensive, may lead to the occurrence of "fraudulent loans" and other phenomena. Based on this, establish an appropriate supply chain access mechanism to reduce the aggravation of financing risks due to the phenomenon of "good and bad" in the supply chain; core enterprises should also appropriately select "allies to avoid the harm caused by operational risks and credit risks by actively promoting financial product innovation and strengthening the management of practitioners."

6. Conclusion

This paper mainly analyzes the financing information requirements, financing models and financing costs under the background of big data in the new era, and puts forward personal suggestions for modern enterprises in four different periods. In summary, in the context of big data, modern enterprise financing pressure is also gradually increasing, reasonable financing strategy can promote the healthy and rapid development of enterprises, although the emergence of new technologies in the new era to modern enterprises to bring a lot of opportunities, but also brought a lot of challenges, which requires enterprises on the basis of data analysis, from a broader perspective to continuously improve the technology to choose the appropriate financing model and improve their own ability to avoid the existing financing risks, to maintain their own business development, Improve market competitiveness, handle the relationship between internal capital flow and external financial integration, attach importance to their own innovation and development, and try as much as possible in the exploration stage of big data to seek the most suitable mechanism for the benign development of enterprises, and gradually broaden financing channels.

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