Big Data and Cloud Platform Application in Small Enterprise Financing Willingness from Rural Bank: An Empirical Analysis

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Abstract

In the era of big data, cloud computing platform has promoted the transformation of the Internet financial operations. In this paper, the authors analyze big data and cloud platform application in small micro enterprise rural bank financing willingness by using logit model. In the operation, by a variety of factors, small and micro enterprises financing will not be fully satisfied. Through the design of the questionnaire, we choose ten indicators as corporate characteristics, social environment and rural bank services in order to carry out the research. The empirical analysis shows that the educational level of the enterprise legal person, the role of credit guarantee institutions, and the regional economic aggregate and financing will positively correlated, enterprise financing cost and financing will negatively related. In view of the empirical conclusions, we put forward the specific recommendations to improve the financing will.

Keywords: Cloud Platform, Network finance, Financing willingness, Logit model, Rural bank

1. Introduction

In the era of big data, the Internet financial operation process change and Internet bank platform to establish a market choice and government regulation based on Internet financial model innovation, mainly in the big data Internet financial company, the third party payment platform, P2P Internet lending platform to raise public financing platform of Internet and Internet financial portal platform. By the end of 2006, China Bank Regulatory Commission announced the adjustment of rural areas to relax the bank financial institutions access policy, 2007 China's first rural bank set up. The rural bank is a financial institution established in the rural areas, which mainly provides financial services for local farmers, agriculture and rural economic development. As of the end of 2014, China has set up 1233 rural bank, which approved the opening of 1152. The rural bank loans amounted to 486 billion RMB, an increase of 123 billion over the previous year; among them, farmers loans amounted to 211 billion, Small and micro businesses loans 240 billion. Small and micro businesses loans accounted for 19.47%, visible, as Small and micro businesses to provide loans to villages and towns is one of the main business. According to statistics, small and micro enterprises accounted for more than 90% of the total number of enterprises in various types of enterprises in China, providing 85% new jobs, creating 75% of new products, the contribution rate of more than 50%. Small and micro enterprises is one of the most active economic elements in the national economy. Play an important role in the economic development and social stability of our country. However, Small and micro businesses as asset size, its "weak" characteristics, the financing will not satisfy the domestic and foreign scholars, and professional of Small and micro businesses financing willingness do a lot of research into some research results.

For foreign Small and micro businesses financing willingness and influencing factors of early and main viewpoints are: Modigliani and Miller (1958) put forward the famous MM theory, this theory is the core idea in a certain assumption, financing options will not

affect the business value of [1]. Clark, Jones and Malmquist (2015) in a recent study by MM research the theory of financing behavior of American companies, he found that the enterprise financing scale will lead to improved corporate cost of capital financial risks rise, while shares fell, the two will be offset by [2]. Berger and Udell (1998) proposed financing small business cycle theory, the main view is that in the different enterprise development cycle, enterprise scale, enterprise information constraints and capital needs are constantly changing, which is due to changes of the basic factors of enterprise financing structure [3]. Huda (2012) through the analysis from Indonesia national institutions and the central bank, put forward relevant countermeasures, help the government bank to collect small business information, enhance information communication ability, improve on the repayment ability of small enterprise evaluation [4].

In our country, small and medium-sized enterprise financing problems of small and micro studies began in the late 20th century, in 90s, for the establishment of the credit system, the financing of enterprises in improving credit, improve the credit guarantee system, government policy support and other aspects of a lot of research. For small and micro enterprises or small and medium enterprises financing will carry out a full range of analysis, the formation of a representative point of view. Yang (2011) pointed out that the rural small and medium-sized enterprises to realize the important role of credit guarantee, through the questionnaire, using the econometric model analysis, confirmed the credit guarantee for small and medium-sized enterprises financing will have positive effect, put forward to solve the financing problem of small and medium-sized enterprises, the introduction of third party guarantees, construct guarantee system for small and medium enterprises [5]. Yang (2011) pointed out the Western landlord loans to small and medium-sized enterprises can get the main influencing factors including enterprise information, enterprise managers' personal characteristics, the financial situation of enterprises and enterprises of other external information, and puts forward the corresponding countermeasures [6]. Zhang (2012) analyzes the financing willingness and supplement liquidity of SMEs growth oriented oriented financing will clear the causes of the low financing intention, and puts forward the path to promote financing will increase [7]. Guo Guo(2015) analysis of the characteristics of Small and micro businesses, starting from the operating conditions, the main construction of credit evaluation system of from the three aspects of repayment willingness and ability and growth potential [8].

From the existing literature, in-depth analysis of domestic and foreign experts and scholars on corporate financing and loans will influence factors, for general enterprises from commercial bank, rural credit cooperatives, postal savings bank will study more easily, this paper puts forward a series of measures to improve the financing of enterprises, using a variety of measurement methods for empirical research, specifically for small and micro study on enterprise financing will need to be further improved. Because Small and micro businesses and other enterprises financing large difference, and Small and micro businesses from the factors influencing the financing of rural bank and other financial institutions as well as from some differences, therefore, from the micro enterprise perspective, study its willingness from rural bank loans is necessary to improve the Small and micro businesses financing level, which has important guiding significance to enhance rural bank financial services. Taking into account the difficulties of small and micro enterprises research and village data availability, this study chose Heilongjiang Province as the sample provinces, the small and micro enterprises to carry out a sample survey of bank financing.

2. Cloud Platform and Big Data

2.1. Network big data

Big data is a concept that covers a variety of technologies, simply to say, it is not in a certain period of time with conventional software tools to capture, manage and process data collection. IBM will be "big data" concept is defined as 4V, namely Volume, Variety, Velocity and Value. Big data and cloud computing are inextricably linked. If the data is an indispensable asset, is the basic resource, needs large data/cloud computing platform provides storage, access and computing support for data assets; cloud computing is a kind of application mode, the core is the data processing technology.
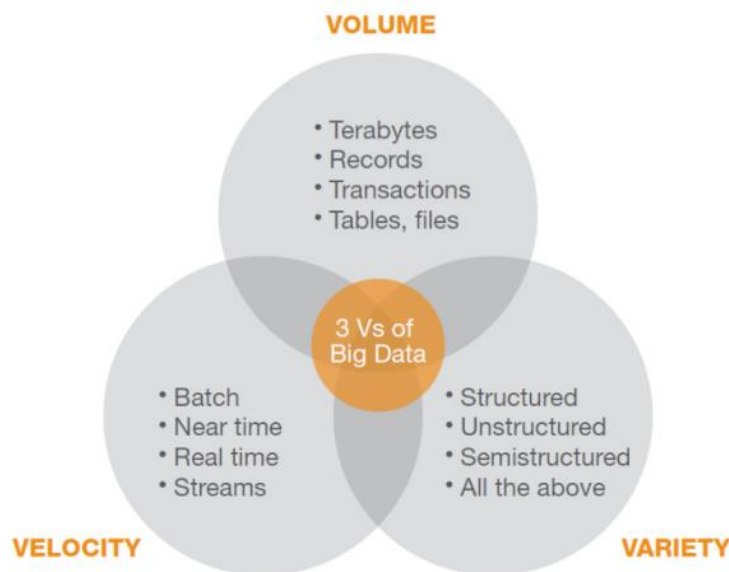

Figure 1. Network big data

Big data based on cloud computing to solve the traditional financial institutions capital supply and demand information asymmetry between the traditional financial institutions, intermediary function and capital allocation status will be gradually weakened, capital supply and demand through the financial data platform for the main spontaneous polymerization and rapid spread, instead of the traditional channels of financial institutions to carry on financing and loans. Internet financial platform to open up the main capital suppliers and demand of the entire value chain, due to the traditional financial institutions deposit interest rates no market, the Internet financial platform through a higher rate of return.

Under the era of big data Internet financial reform and the operation process of the Internet bank platform to establish a market choice and government regulation based on Internet financial model innovation, mainly in the big data Internet financial company, the third party payment platform, P2P Internet lending platform to raise public financing platform of Internet and Internet financial portal platform. The financial impact of the Internet on the financing of SMEs is mainly embodied in four aspects: forced mechanism of traditional financial institutions, financing of small and medium-sized enterprises more comprehensive, scientific, SME financing services more targeted, the small and medium-sized enterprise financing cost decreased significantly. Finally, from the legislative level policy system construction, the cultivation of multi subject Internet financial platform, to strengthen the third party data market construction and coordination mechanism in four

aspects of Internet financial platform for big data background of financing the development of Internet Bank for small and medium-sized enterprises positive impact.
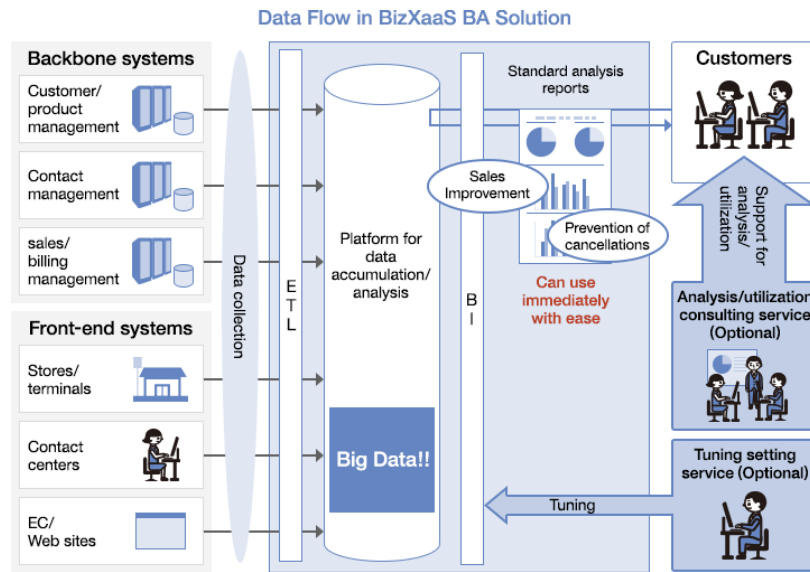

Figure 2. Big data platform

At present, the main financial platform for the Internet era of big data has the ability to use search engines, data, cloud computing and social networking platform, reduce the information asymmetry between supply and demand, and thus produce a variety of different from the traditional financial profit model. First, the big data Internet financial companies. Big data Internet financial companies have accumulated massive user transaction data, analysis and mining user consumption habits and supplier transactions, and thus more accurately predict the lending capacity of users of consumer behavior and suppliers, as well as traditional financial institutions and financial services platform marketing, loan risk management and other aspects of value creation.
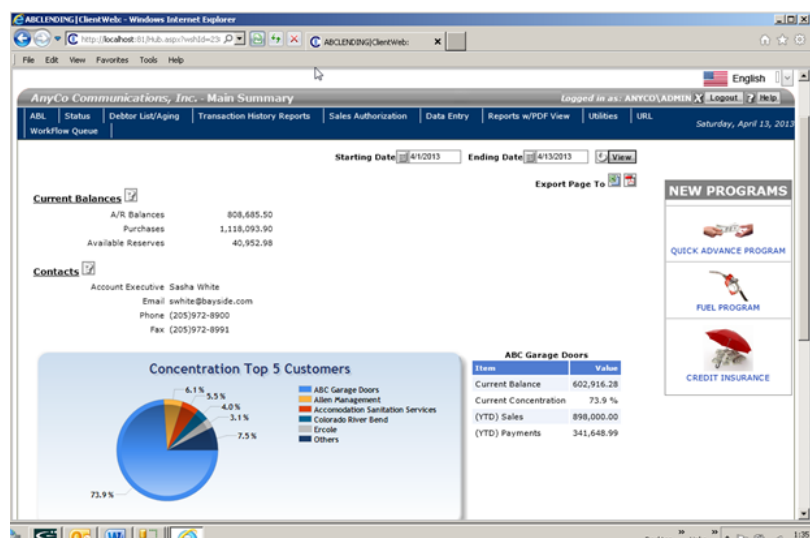

Figure 3. Internet financial platform

The next big data era of small and medium-sized enterprises can be divided into small and medium-sized enterprises and big data platform Internet platform in the small and medium-sized enterprises, for a large Internet data platform of small and medium-sized enterprises based on the operation data, the trade data, customer data, logistics, sales data, authentication information, financial data, corporate credit monitoring data index analysis and data mining, and analysis of the innovation of the SMEs, management and financial behavior, dig out the potential and value of small and medium-sized enterprises, the financing demand forecast and design innovative products competitive, provide comprehensive financial services, enhance customer stickiness.

2.2. Cloud platform

Hadoop is an open source software framework for distributed processing of massive data. Hadoop can support PB level mass data, scalability is strong. Reliable, efficient, scalable and open source characteristics, so that the Hadoop technology has been rapid development, and in 2008 to become the top Apache project. From Google released MapReduce, Amazon use Hadoop to become one of the world's first supplier to provide mature cloud computing services, now and then IBM, DELL, Microsoft, EMC2, Alibaba, Tencent in the domestic and foreign manufacturers have their own commercial Hadoop platform, Hadoop has made brilliant achievements, applied more widely.
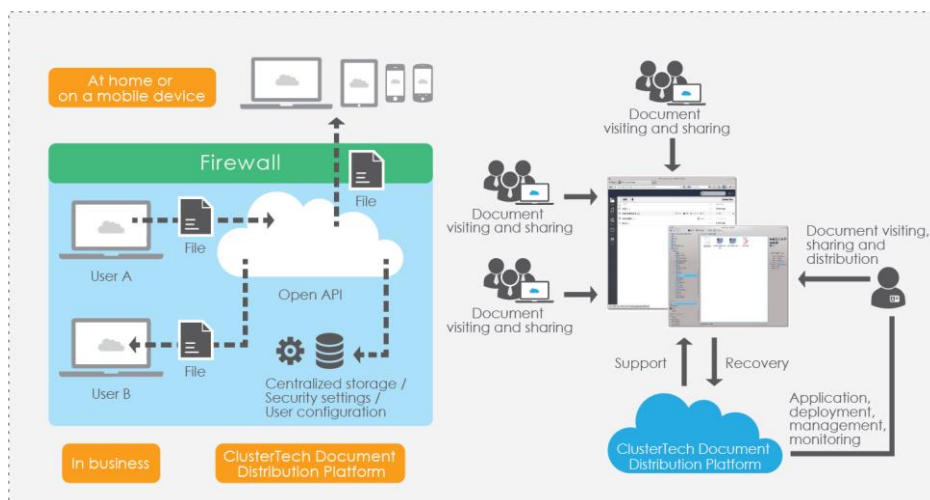

Figure 4. Hadoop platform

Hadoop is currently the development of big data is the most mature open source platform, attracted a large number of Internet companies, the traditional IT equipment manufacturers and new enterprises to participate in the project development and practical application of the process. For a long time in the future, Hadoop open source ecology will still be able to play a positive role in promoting the development of large data applications and technologies. Big data / cloud computing platform is the development and application of specific needs associated. The first requires massive off-line data processing, the TB level of data processing and analysis of data delay requirements is not high, when using the Hadoop platform, using MapReduce, mahout, HDFS and HBase, you can complete the distributed processing of massive data, data mining and data storage; with the sharp increase of the amount of data, data diversity also more and more rich, the data dimension is also more and more high, in a real time system response time data itself is second sensitive, then Hadoop platform will not be fully applicable in such applications, Spark came into being, the calculation can quickly analyze data using memory.
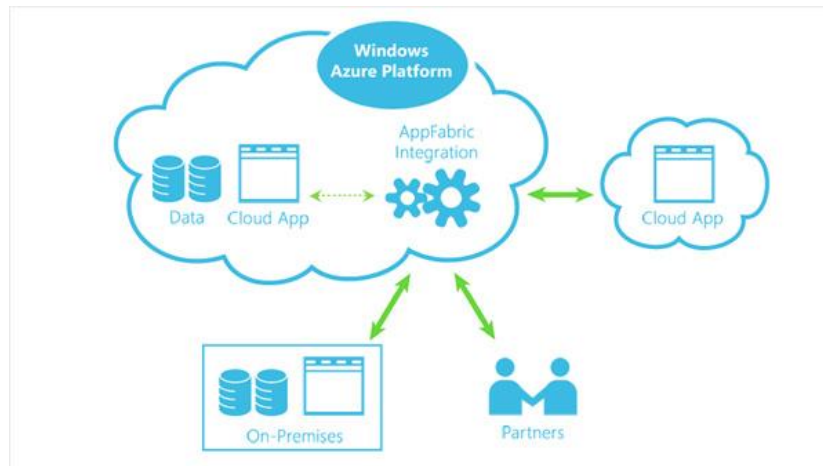
Figure 5. The cloud computing model

The Internet financial platform and traditional financial institutions subject different growth path, the traditional financial institutions to enter the market with trade barriers, protected by the government, has a monopoly, the deposit interest rate marketability, not to establish a deposit insurance system under the premise of the loan business in the innovation of product innovation, business innovation, the traditional model of financial institutions under the seller's market the lack of power and competitiveness, because of its existing business with considerable gains in system protection. With the gradual liberalization of the financial license, the rise of Internet Co, Internet financial platform based on large customers, a large number of data with open up the logistics, service flow, information flow, capital flow platform features. Based on the correct understanding of the customer and the market to fully understand these Internet bank platform is the result of the market, they have a continuous innovation and continuous change of the source of power. The establishment of the Internet bank platform must be established on the basis of the market, the two sides by the market participants in the choice of capital supply and demand, of course, the development of the Internet financial market can not be separated from the government. The role of the government is to regulate the Internet financial market supervision, the principle is to respect the market choice, not interfere with the market, maintaining good market.

Figure 6. Internet financial

3. Data Source and Sample Analysis

Investigation of Small and micro businesses on the sample data from the Northeast Agricultural University and the Heilongjiang Bayi Agricultural University research group belongs to Heilongjiang Province, Harbin, Qigihar, Mudanjiang, Jiamusi and Daqing in the city of 5. The research data are mainly from questionnaire and statistical yearbook. The questionnaire mainly includes enterprise characteristics, social environment and the policy and service of rural bank. The survey is mainly selected with the small and micro enterprises in rural bank loans are closely related to the investigation, the investigators in September 1, 2016 ~10 1 to complete the relevant investigation. The basic method of this survey is introduced by the management staff of rural bank, the investigators randomly selected customers directly to complete the interview. The survey completed a total of 205 questionnaires, 200 valid questionnaires, the effective rate of 97.6%, the relevant statistical characteristics of the questionnaire see table 1.

Table 1. Interview enterprise basic statistical characteristics

Statistic feature	Classification index	Sample number
Corporate education level	Primary school and below	30
	middle school	45
	College degree	35
	University degree and above	90
Corporate credit status	good	115
	difference	85
Return on net assets	10% below	101
	10%-20%	50
	20%-50%	25
	More than 50%	24
Adequacy of collateral	good	103
	difference	97
The industry	Forestry Animal Husbandry and fishery	116
	Other	84
Average cost of enterprise financing	5% below	40
	5%-10%	69
	More than 10%	91
Credit guarantee institutions play a role	yes	86
	no	114
Evaluation of loan interest rate of rural bank	Low interest rates	20
	Moderate interest rate	81
	High interest rate	70
	be unable to explain clearly	29
Satisfaction with the rural bank loan policies and services	Satisfied	52
	Basic satisfaction	60
	Dissatisfied	48
	be unable to explain clearly	40

4. Empirical Study of Small and Micro Enterprises Loan Willingness

4.1. Logit model operation

Logit model is the logical distribution as the random error of the probability distribution of a two element discrete choice model and analysis applied in accordance

with the principle of utility maximization as the standard to carry out the behavior of operation rules of Logit model are as follows.

$$p(Y_i = 1) = p(Y_i^* > 0) = P(u_i^* > -\alpha^* - \mathbf{X_i'}\boldsymbol{\beta}^*) = P(u_i^* < \alpha^* + \mathbf{X_i'}\boldsymbol{\beta}^*) = F(\alpha^* + \mathbf{X_i'}\boldsymbol{\beta}^*)$$

If we take F (.) as a logical function (LOGIT), that is:

$$\Lambda(x) = F(x) = \frac{1}{1+e^{-x}} = \frac{e^x}{1+e^x}$$

$$p(Y_i = 1) = F(\alpha^* + \mathbf{X_i'}\boldsymbol{\beta}^*) = \Lambda(\alpha^* + \mathbf{X_i'}\boldsymbol{\beta}^*) = \frac{1}{1+e^{-\alpha^* - \mathbf{X_i'}\boldsymbol{\beta}^*}} = \frac{e^{\alpha^* + \mathbf{X_i'}\boldsymbol{\beta}^*}}{1+e^{\alpha^* + \mathbf{X_i'}\boldsymbol{\beta}^*}}$$

In order to simplify the model:

$$Y_i^* = \alpha^* + \mathbf{X_i'}\boldsymbol{\beta}^* + u_i^*$$

We make

$$\boldsymbol{\beta} = \begin{pmatrix} \alpha^* \\ \boldsymbol{\beta}^* \end{pmatrix}, \mathbf{x}_i = \begin{pmatrix} 1 & x_{i1} & x_{i2} & \cdots & x_{ik} \end{pmatrix}', u_i = u_i^*$$

then

$$Y_i^* = \mathbf{x}_i'\boldsymbol{\beta} + u_i$$

$$F(\alpha^* + \mathbf{X_i'}\boldsymbol{\beta}^*) = \Lambda(\mathbf{x}_i'\boldsymbol{\beta}) = \frac{\exp(\mathbf{x}_i'\boldsymbol{\beta})}{1+\exp(\mathbf{x}_i'\boldsymbol{\beta})}$$

$$p(y_i = 1/x_i) = \Lambda(\mathbf{x}_i'\boldsymbol{\beta}) = \frac{\exp(\mathbf{x}_i'\boldsymbol{\beta})}{1+\exp(\mathbf{x}_i'\boldsymbol{\beta})}$$

$$p(y_i = 1/x_i) = \frac{\exp(\mathbf{x}_i'\boldsymbol{\beta})}{1+\exp(\mathbf{x}_i'\boldsymbol{\beta})}$$

$$[1+\exp(\mathbf{x}_i'\boldsymbol{\beta})]p(y_i = 1/x_i) = \exp(\mathbf{x}_i'\boldsymbol{\beta})$$

$$p(y_i = 1/x_i) + p(y_i = 1/x_i)\exp(\mathbf{x}_i'\boldsymbol{\beta}) = \exp(\mathbf{x}_i'\boldsymbol{\beta})$$

$$p(y_i = 1/x_i) = \exp(\mathbf{x}_i'\boldsymbol{\beta}) - p(y_i = 1/x_i)\exp(\mathbf{x}_i'\boldsymbol{\beta})$$

$$p(y_i = 1/x_i) = \exp(\mathbf{x}_i'\boldsymbol{\beta}) - p(y_i = 1/x_i)\exp(\mathbf{x}_i'\boldsymbol{\beta})$$

$$\frac{p(y_i = 1/x_i)}{1 - p(y_i = 1/x_i)} = \exp(\mathbf{x}_i'\boldsymbol{\beta}) \quad \text{(nonlinear)}$$

$$\ln\frac{p(y_i = 1/x_i)}{1 - p(y_i = 1/x_i)} = \mathbf{x}_i'\boldsymbol{\beta} \quad \text{(generalized nonlinear)}$$

$$\ln\frac{p(y_i = 1)}{1 - p(y_i = 1)} = \mathbf{x}_i'\boldsymbol{\beta} + u_i \quad (1)$$

Called (1) as a logistic regression model. The dependent variable is two categorical variables, LOGIT regression model, the error does not obey the normal distribution, so

this model is not suitable for estimation using the least square method, suitable for the maximum likelihood method for the regression parameter estimation.

4.2. Variable selection

(1) Dependent variable selection

Because the variable is set to change the situation of small and micro enterprises financing. In small and micro enterprises in the process of bank financing, financing will and small and micro enterprises themselves and economic development, financial market efficiency and the awareness and evaluation of rural bank. This financing will also vary with the change of environment, the result is nothing more than a variety of factors can promote the change of financing will increase, therefore, the dependent variable is a typical two variables, in order to study the Small and micro businesses rural bank financing will issue of convenience, in the study will be set as explanatory variables to promote small and micro enterprise financing will increase, so that it can enhance the value of "1" or "0".

(2) Selection of independent variables

The individual characteristics of small and micro enterprises, the economic environment factors and the cognition and evaluation of rural bank. According to the actual situation of domestic and foreign scholars relevant research results and research, corporate education, corporate credit conditions, the rate of return on net assets, the adequacy of collateral, the industry, credit guarantee institutions can solve the financing, financing costs, area GDP, the village rural bank loan interest rate level evaluation and satisfaction of rural bank service the degree to Small and micro businesses may affect the financing willingness of independent variables, were set to X1-X10. According to the survey of the induction, classification and finishing, so as to obtain the small and micro enterprises financing will the variable name and variable settings.

Table 2. Small and micro enterprises rural bank financing willingness

Variable type	name	setting
Enterprise characteristics	Enterprise legal person educational level X1	College =0; junior college or above =1
	Enterprise credit status X2	Poor =0; good =1
	Return on net assets X3	<10% =0; more than 10% =1
	Adequacy of collateral X4	No =0; yes =1
	Industry X5	Agricultural =1, other = 0;
social environment	Enterprise average cost of financing X6	> 10% =0, <10% =1
	Credit guarantee institutions play a role X7	Bad =0; good =1
	Area GDP X8	GDP amount (2015)
Cognition and evaluation of rural bank	Evaluation of loan interest rate X9	High interest rates =0; low interest rates, interest rates moderate =1
	Credit policy and service satisfaction X10	Not satisfied, that is not clear =0; satisfaction, basically satisfied with =1

4.3. Logit regression results and analysis

In the Logit regression model, the independent variable must have a significant explanatory power to the dependent variable. Based on the analysis of the situation, the likelihood ratio test is used to test the statistical characteristics of the Logit regression

model. The likelihood ratio statistic is approximated by a 2 distribution (Wlilliam, 1990). If 2 of the model is statistically significant, it will reject the null hypothesis that the information provided by the independent variable helps us to better predict the occurrence of the practice. Model test results are shown in table 3.

Table 3. The regression model results

independent variable	coefficient	Standard error	Wals	Freedom	Sig.	Exp (B)
X1	0.623	0.337	3.421	1	0.044	0.536
X2	0.027	0.344	0.006	1	0.938	1.027
X3	0.299	0.391	0.587	1	0.444	1.349
X4	-0.079	0.379	0.043	1	0.836	0.924
X5	0.496	0.329	2.27	1	0.132	1.642
X6	-0.866	0.34	6.506	1	0.011	2.378
X7	0.789	0.343	5.292	1	0.021	2.2
X8	0.231	0.325	5.621	1	0.018	1.259
X9	0.393	0.32	1.515	1	0.218	1.482
X10	-0.257	0.335	0.589	1	0.443	0.773

According to the variables of the regression model, the results of regression analysis are as follows.

(1) in the individual enterprise characteristic, enterprise credit status, the rate of return on net assets, the adequacy of collateral, the industry factor sig. values were 0.938, 0.444, 0.836, 0.132, were higher than 0.05, therefore, these four variables are not significant, has little effect on the financing intention. The significance level of the enterprise legal person is 0.044, less than 0.05, and the coefficient of variable coefficient is positive, indicating that the higher the degree of enterprise legal person is, the stronger the financing will be to the rural bank.

(2) in the social and environmental factors, the significant level of corporate average financing cost of X6 is 0.011, the variable coefficient is negative, this factor has a negative impact on the rural bank financing will show that the lower average enterprise financing cost, financing and the willingness of rural bank. Credit guarantee institutions play a significant level of X7 is 0.021, its variable coefficient is positive, that credit guarantee institutions to play a greater role, the stronger the financing of rural bank. The significant level of X8 GDP in the area is 0.018, and its variable coefficient is positive, which has a positive effect on the results. The reason may be that the stronger willingness of rural bank in the region with high GDP.

(3) the evaluation factors of the cognition and evaluation of rural bank, the evaluation of loan interest rate and loan policy and service satisfaction degree of sig. were 0.218 and 0.443, respectively, more than 0.05. Did not pass the test, the variable is not significant, the impact on financing will not.

5. Conclusions and Policy Implications

Through the empirical model of small and micro enterprises in Heilongjiang Province, the empirical model of rural bank financing will show that the financing will be mainly affected by individual factors and external environment. Using the sampling number, constructing logit model, the results show that the cost of financing is the main factor causing Small and micro businesses rural bank financing will lower the level of education; corporate credit guarantee institutions to play a role, the total regional economy and other

factors on the Small and micro businesses financing will have a significant positive effect, can be beneficial to promote Small and micro businesses financing intention. Therefore, to improve the small and micro enterprises financing will be the following aspects of the bank financing.

(1) accelerate the development of small and micro enterprises themselves, improve their economic strength.

Small and micro businesses with "weak" characteristics, the development of demand for funds will strong, but because of its own management level, credit status, and the influence of the collateral industry and other factors, the financing will not be fully satisfied, especially influence corporate financing of education level. Therefore, in operation, small and micro enterprises should seize the national policy concessions, strengthen their own construction, improve the management of knowledge and level of corporate profitability and internal management level. Focus on improving corporate education level and management ability to expand the size of enterprise assets, maintain a reasonable capital structure, and enhance the ability to resist risks.

(2) create a favorable financing environment

According to the financing needs of small and micro enterprises to create favorable conditions to promote the financing will improve. First, reduce the cost of corporate finance. For small and micro enterprises, the financing costs will be directly affected by the time to finance and investment direction. Actively create a variety of conditions, accelerate financial intermediation, reduce the cost of financing, to ensure that the cost of financing has been reduced, improve the enthusiasm of small and micro enterprises financing. Secondly, give full play to the credit guarantee mechanism. For small and micro enterprises, the financing guarantee mechanism is essential. Most small and micro enterprises financing demand is great, but because there is not enough security products, rural bank can not provide adequate credit. Therefore, the need for security policy and security agencies to fully play a role. Finally, improve the level of economic development of small and micro enterprises in the region. Small and micro enterprises as an important part of the regional economy, its development is affected by the overall level of economic development in the region. If the region's economic development is good, the economic operation environment is good, the enterprise development initiative is high, financing will also be high, and vice versa.

(3) improve the policy and service satisfaction of rural bank

In the regression analysis, although the rural bank loan interest, policy and service satisfaction of Small and micro businesses financing will return is not significant, but the effect of Small and micro businesses financing will indeed will be the rural bank related policy and service satisfaction. Rural bank should perfect the corporate governance structure, innovative financial products, provide preferential interest rate policy, good policy advocacy and interpretation, improve the loan Follow-Up Services, so as to promote the orderly conduct of loans, loans to improve efficiency.

Acknowledgments

References

[1]   F. Modigliani and M. Miller, "The Cost of Capital, Corporate Finance and the Theory of Investment", American Economic Review, **(2012)**, pp. 290-297.

[2]   C. Brian, J. Jonathan and M. David, "Leverage and the Cost of Capital: Testing the Relevance of the Modigliani", Miller Theorem for U.S. Bank, **(2015)**, pp. 12-15.

[3]   A. N. Berger and G. F. Udell, "Small Business Credit Avail 1bility and Relationship Lending: The Importance of Bank Organizational Structure", The Economic Journal, **(2003)**, pp. 12-20.

[4]   A. N. Huda, "The Development of Islamic Financing Scheme for SMEs in a Developing Country: The Indonesian Case", Procedia -Social and Behavioral Sciences, **(2012)**, pp. 179-186.

[5]   Z. Yang, "Analysis of rural small and medium sized enterprises' financing intention from the perspective of Credit Guarantee -- Based on the survey data of 235 enterprises in Henan Province", Agricultural technical and economic, **(2011)**, pp. 119-127.

[6]   Y. Yi, "A study on the factors affecting the availability of loans to small and medium enterprises in the western region", Finance and finance, **(2011)**, pp. 1-7

[7]   Z. Yu and L. Chu, "Study on Financing willingness of small and medium sized enterprises and its cultivation", Accounting newsletter, **(2012)**, pp. 8-9.

[8]   L. Yu, "Construction of credit evaluation index system of small and micro enterprises in our country", Financial Economics: theory, (2015), pp. 156-158.