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A Solution to the Problem of “Credit Discrimination against SME”: From Cross Organization Information Sharing of G2B E-government

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【Abstract】 To solve the problem of "Credit Discrimination against SME", firstly the relevant literature concerning the approaches to the problem is reviewed and deficiencies are pointed out. Then the role of government and the mode of credit information sharing in foreign countries are analyzed, which can be valued as the practice basis of E-government services design. Finally, on the basis of policies and regulations and actual situation in China and theoretical analysis, the paper constructed the value of cross-organizational information sharing service value network and services model, and designed E-government service system in SME lending decisions and supervision, as a new perspective to solve the problem of the discrimination. This study provides a reference for developing countries that have a similar problem of "Credit Discrimination against SME" and same conditions of credit information.

Key Words: E-government; Credit Discrimination against SME; cross organization information sharing; service value network

Introduction

Discrimination is primarily a concept of Sociology, and it means a sociological term referring to the treatment taken toward or against an individual of a certain group in consideration based solely on class or category^[1]. Generally, discrimination appears often in the literature of Sociologist, such as Discrimination against the Women, Discrimination against the Black, Discrimination against the Old and so on^[2-4]. As a basic and independent unit in society, enterprises also face the problem of discrimination when receiving bank loans. Large enterprises has more advantages in receiving bank loans compared to small and medium enterprises, that means the problem of “Credit Discrimination against SME” exists^[5]. The Credit Discrimination against SME refers to the differentiated treatment to small and medium enterprises of bank loans mainly in the aspect of capital availability, financing cost and financing efficiency^[6]. In 2005 China Growing Small and Medium Enterprises Development Report, the discrimination of state-owned financial organizations takes up a percentage of 24% ranking No.2 among the reasons for financing difficulties. In 2009 China Small and Medium Enterprise Development Report, small and medium enterprise loans account for 14.7% of all various kinds of loans in major banks. As a result, the paper is mainly focused on the problem of Discrimination of SME.

In order to solve the problem of “Credit Discrimination against SME”^[7-8], Lin Yifu and Li Zhiyun empirically concluded that the optimal finance structure in compatible with economic structure is one centered on small and medium banks, and thus suggested the improvement of small and medium financial organizations to resolve “Credit Discrimination against SME”^[9-12]. Zhang Jie, Wang Xiao and Zhang Qi et al. and Li Mao et al. pointed it is necessary to lead the development of informal Financing^[13-14]. Zhang Qi et al. also proposed that government should establish the system of financing assurance and government re-assurance.^[15] These researches are mainly from the perspective of changing the currently existing market structure or changing the capital collocation efficiency. Although some have emphasized it is

necessary to have ownership innovation and that government should play the right role^[16-17], none of them has touched the point of cross-organization information sharing for bank decision-making service. This paper aims at exploring the problem of “Credit Discrimination against SME”, studies the government function, and analyses the information sharing mode in foreign countries. Then, based on the policies and national conditions in China, the paper designs the cross-organization information sharing decision-making and supervision service system under the context of E-governance.

1. Research on the Government Role in “Credit Discrimination against SME”

Information asymmetry caused the phenomena of “Credit Discrimination against SME”, and in turn resulted in Credit Market Failure^[18]. Government Information Service and Credit Construction is one of the effective tools to solve the problem^[19].

The emergence and development of New Public Management Theory and New Public Service Theory in 1970s put forward the ideas that “focus on customer/public, pay attention to their needs, and satisfy their needs”, and laid a good foundation for the construct of service-oriented government. The function of a service-oriented government is manifested in economic level and political level. In economic level, the function of government should include ensuring the normal market competitive order through regulations and supervisions, and providing the public products and services the market could not provide, etc. In political level, the government should provide a secure, equal, and democratic environment for all including vulnerable group, and make a good use of the power given by the people^[20]. Therefore, from the perspective of both political and economic level, the government needs to change their roles from a management style to service style, and actively explore the solutions to the problem of “Discrimination of SME loans”.

From the perspective of Service Science, Service is often defined as the application of competences (resources) for the benefit of another^[21]. To solve the problem of “Credit Discrimination against SME”, government can also take the advantage of its own resources to benefit the lenders, especially small and medium enterprises. Currently, the source of credit information is mainly from the People’s Bank of China. In 2007, the registered company in the People’s Bank of China database reached 0.13 billion, among which 45.4% established credit relations with the People’s Bank of China. The government are in control of more than 60% of the total credit information^[22]. To exercise the service function, the government can fully take advantage of its information resources to establish a loan decision-making support and supervision e-government platform, and thus promote the enterprise credit system construction.

2. Comparative Analysis on the Credit Information Sharing Mode

“Adverse Selection” and “Moral Hazard” resulted from information asymmetry can be solved in two methods: Credit Risk Mitigation and Credit Information Sharing. Credit Risk Mitigation is to reduce the loss or risk affect through the means of mortgage and credit derivatives. However, Credit Risk Mitigation might not be suitable for small and medium enterprises because small and medium enterprises have a comparatively small amount of capital and credit derivatives for small and medium enterprises are limited. Constructing credit information sharing platform is feasible^[23].

In the present time, there are mainly two modes of credit information sharing platform: American Mode—Credit Information Intermediary Support and European Mode—Public Credit Information Registering. The establishment of American Mode is relying on the massive credit intermediary resources—Credit Bureau. For example, Dun and Bradstreet (D&B) of America collected great amount of information of companies, managers, and business owners through on-site and telephone interviews. The information includes relevant government policies, company trading partners, public information resources, debt servicing, company funds, company history, management capacity, credit line, and public record etc.

American mode can fully take advantage of customer scale effect, make individual and group data analysis, and reduce cost of information collection and credit management service^[24]. The two modes can both realize credit information sharing service. According to the characteristics of service systems^[25-26], the comparisons of the two information sharing modes can be summarized in Table 1.

Table 1. Comparisons on the Enterprise Credit Information Sharing Modes

	American Mode (Credit Bureaus)	European Mode (Public Credit Registers)
Operant	Natural Monopoly	Government Monopoly
Resource		
Boundary	Credit Intermediary formed by Market	Public Credit Registers subordinated to Central Bank
Spanners		
Information	Voluntary Membership	Central Bank Compulsory Supervision
Connection		
Professional	provide credit evaluation service and credit management service	mainly provide credit information report
Service		
Report Content	Positive Information (Asset, Debt, Guarantee, Mode of Payment, Employment, and family background) Negative Information (breach of contract)	Positive Information (loan exposure, guarantee), Negative Information (Breach of loans, bankruptcy record)
Length of	Case study or statistics analysis	Credit information record sharing
Relationship		
Width of	the data of membership banks and supplementary database such as Taxation and Court of Law	banks subordinated to Central Banks but data should beyond a certain thread.
Relationship		
Countries	US, UK, Japan etc	Germany, Finland, Italy, France, Belgium
Identification of roles	Service	Supervision
Secrecy level	low	Graded

Edited according to Jappelli T, Pagano M. (2006). Information Sharing in Credit Markets: The European Experience

As shown in Table 1, American Mode is the result of natural monopoly and established through market-driven voluntary membership with Credit Bureau taking a leading role. The main function is information and consulting service. The government is to serve the Credit Bureaus and provide the information they needs. European Mode is the result of government monopoly and adopted compulsory supervision by central bank with public credit registers taking a leading role^[27]. The main function is credit supervision and information service. The source of the information is commercial banks mainly. The Public Credit Registers is the main functional agencies and provide credit reference information and supervision service. It is thus clear that although American Mode and European Mode show differences in their main functions, government in each mode both show the function of information service in small and medium enterprise loans. Besides, telecommunication and computer technology play important roles. For example, in European Mode, based on computer technology, software, and electronic link, the Public Credit Registers need 10 to 60 staff; 60 staff is needed for enterprise credit information transfer in France^[27].

American Mode can provide detailed credit report and credit evaluation service, but it has a

precondition that the credit information in banks is open to Credit Bureaus and the cost reduction brought by credit information sharing can counterweight the disadvantage of competition in the same trade^[27]. However, according to *Law of the People's Republic of China on Commercial Banks* and *The Law on People's Bank of China*, the credit information of banks in China cannot be shared by a Third-Party only other than the Credit Reference Center under The People's Bank of China. Therefore, American Mode does not apply to China. European Mode is characterized by the broad covering that every Public Credit Registers all need to hand in credit report, but its demerits is single-source of data which fails to recognize credit risk and fulfill the role of risk management. Therefore, European Mode cannot solve the problem of "Credit Discrimination against SME" in China as well.

In order to find its own solutions to "Credit Discrimination against SME", Chinese governments in all levels should take into its own national conditions and role in market, and learn from the American Mode and European Mode.

3 The Service Design for "Discrimination of SME" under the context of E-governance

In small and medium enterprises loan, more and more attention has been drawn on the role of government. Information technology has provided tools and facilities for the realization of government roles. The development of E-governance can reduce the constraint of government management technology on government behaviors, partly resolve the contradiction of limited government resources versus complex public demands, and rationalize the transformation of government roles into service-oriented^[28].

3.1 Theoretical Foundation of Service Design for "Discrimination of SME" under the context of E-governance

(1) Policies and National Condition Basis

There is no *Trade Secrets Protection Acts* in China, but as stipulated in *Law of the People's Republic of China on Commercial Banks* and *Guidelines for Internal Control of Commercial Banks*, current staff in commercial banks is not allowed to release trade secrets when they are at their post, which means that it is infeasible to directly introduce market-oriented third-party credit reference agencies. Meanwhile, according to *The Law on People's Bank of China*, the People's Bank of China can share some customer (enterprise) information because of its role of supervision, which means the People's Republic of China Credit Reference Center plays a very important role in E-governance service. *The Decree of Government Information Openness* points out that, administrative organizations cannot give publicity to government information related to trade secrets and personal privacies unless those are agreed by creditors or administrative organizations assume no harm to public interest. Therefore, under certain circumstances, government can provide credit information needed by banks through cross-organization information sharing.

Due to historical reasons of commercial bank development in China, the State-owned banks, such as the Industrial and Commercial Bank of China, the China Construction Bank, the Agricultural Bank of China and the Bank of China, has accumulated a great amount of credit information data because of their long term dominance, besides they have a close tie to the enterprises in this industry^[29]. For those large enterprises, these banks have risk recognition and evaluation tools; while for small enterprises, it might not be the case. It would be a good solution to "Credit Discrimination against SME" if state-owned banks can make full use of their information advantage and enable themselves to evaluate and supervise small and medium enterprises. The government can help small and medium enterprises with their loan policy-making by providing the banks with credit information to avoid the problem of information asymmetry in the loan process.

The administrative system and monetary system are paralled in China. Different government organizations are also divided in ther functions. So the problem of “information island” exists for long^[30]. These makes the G2B E-government information sharing possible. Meanwhile ,with the development of credit system and Golden Tax and Golden Custom systems, China has improved the basis for inforamtion construction.

(2) Theoretical Basis

The research of Godbillon-Camus and Godlewski showed that the application of soft information can reduce the security for loans required by the banks, and this helps solve the problem that high-tech and trade enterprises are in lack of tangible mortgage^[31]. From the perspective of transaction cost, He and Wang proposed that it is important and necessary to establish good credit evaluation system because it can promote the unsecured loans^[32]. However, because credit information sharing system is a public product, banks lacks internal drive to adopt it without government assistance. This necessitates the role of government in establishing public credit evaluation organizations.

Lejeune and Roehl empirically studied how Canadian banks apply information technology to expand the potential of developing and communicating information, and how the integration of information technology and soft element and hard element enabled the development of Canadian banks in 1990s^[33]. The E-governance service solution to “Credit Discrimination against SME” should take into account both the hard and soft information requirement in designing the decision-making and supervision support system. Meanwhile, it needs the coordination of both information technology and organization structure.

3.2 Service Value Network for “Discrimination of SME” under the Context of E-governance

Based on the analysis of policies and regulations and the national conditions of China, the cross-organization information sharing service value network to solve “Credit Discrimination against SME” can be drawn as Diagram 1^[34].

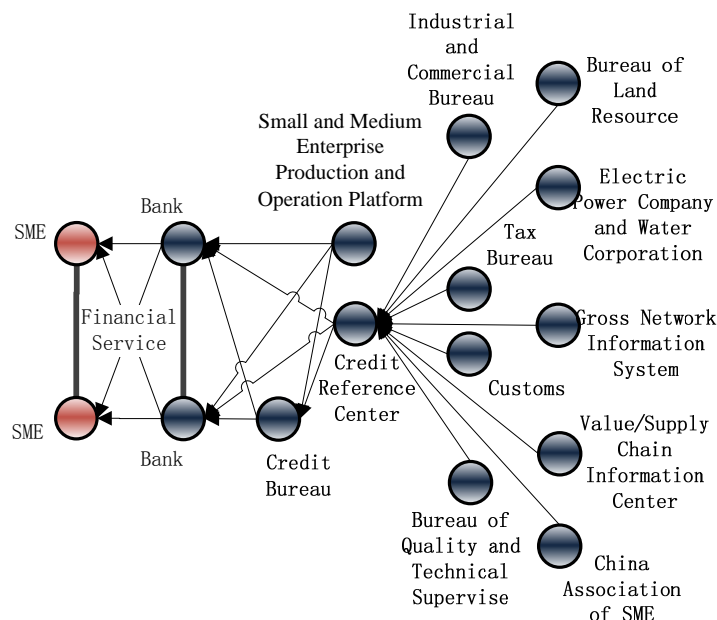


Fig. 1. Cross-organization Credit Information Sharing Service Value Network

As Fig. 1, Finance Intermediary Agent can be stratified as four levels, the credit service agent of bank level, the Credit Grading Agency of Small and Medium Enterprise level, the general information integration service level, and the basic government information pick-up level. These levels are connected through service protocol and contract. Industry and Commerce Department, Taxation

Department, and Custom Department take the role of information pick-up and transfer. Small and Medium Enterprise Production and Operation Platform directly collects the first hand information and processes them. The Credit Reference Center of the People's Bank of China will be responsible for integrating and summarizing the information. The Credit Grading Agency of Small and Medium Enterprise provide service as credit risk evaluation and credit management. Surely the bank can directly get data from the Credit Reference Center and Small and Medium Enterprise Production and Operation Platform to fulfill the role of credit risk and management. The Small and Medium Enterprise Production and Operation Platform plays a very critical role to solve the problem of Credit Discrimination against SME, and the Credit Reference Center is also important as the hub for G2B cross-organization information sharing.

3.3 Constructing the Model of E-governance Small and Medium Enterprise Loans Decision-making and Supervision Service System

According to the Bank to Government (G2B) cross-organization information sharing goals and the maxims to corresponding service system design, the Small and Medium Enterprise Loans Decision-making Service System can be constructed taking into account the cross-organization information sharing service value network as Dig. 2.

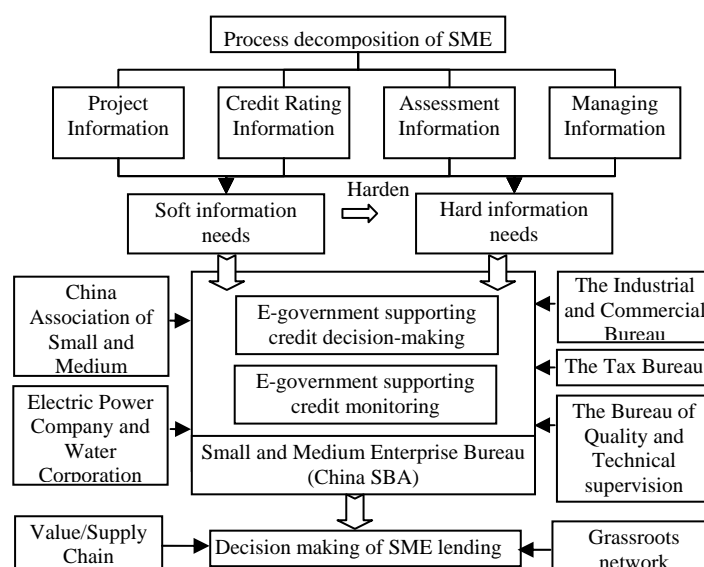


Fig. 2. Small and Medium Enterprise Decision-making and Supervision Service System based on E-governance

With the constraint of credit information in control by banks and national policies and regulations, the decision-making and supervision of small and medium enterprise loans is a multi-object programming problem and needs to meet the requirements of low risk, low cost, and low demand on staff. Based on the requirements above, the small and medium enterprise loans process can be disassembled. The information source is mainly the data on The Small and Medium Enterprise Production and Operation Platform, banks data and E-governance information collected by the governments. Hard information need and Soft information need are classified in the phase of project information, credit rating information, managing information, and assessment information. Soft information can preferably be transfered into hard information. Different process is designed according to the different needs of hard information and soft information, among which, hard information entails the integration role of information technology, while soft information entails the role of service organization framework. The E-governance decision-making and

supervision service model in finalized then, and methods like multivariate information integration calculation, uncertainty reasoning should be employed to analyze the relevant information handed in by banks. In addition, Model database and expert database should be consulted to ascertain the accuracy of the information and credit risk. The model of E-governance small and medium enterprise supervision is similar. The goal of the governments is maximize the service satisfaction, minimize cost and staff demand.

The decision-making and supervision service system of SME loans can provide more accurate and low cost service and highlights the role of government in solving the problem of “Credit Discrimination against SME” .

4. Conclusion

To solve the problem of “Credit Discrimination against SME” , government is introduced as the third party to provide decision-making and supervision service for small and medium enterprise loans. E-governance, especially credit information sharing can help solve some of the difficulties in small and medium enterprise loans, reduce the risk and information acquisition cost, and thus strengthen the bank-enterprise information and trust mechanism. In this manner, the “Credit Discrimination against SME” is reduced to some extent and the small and medium enterprise loans can be increased, even the commercial banks pursue the maximum profit and strict check on defective rate. However, this paper is only a rudimental exploration on the credit information sharing; more research is needed on the aspect of information recognition and classification, multivariate information integration calculation, uncertainty reasoning model and the realization of the whole decision-making and supervision service system.

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