

10th International Conference on Information Technology and Quantitative Management

Research on Driving factors of Government Dishonesty in PPP Projects Based on Grounded Theory

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Abstract

In the development process of the current PPP model, the government's faithless behaviour is common, leading to the PPP project can not be smoothly promoted, and even affect the government's administrative integrity and credibility, so from the source to prevent and curb trust-breaking behaviour is the key. This study uses the grounded theory to encode the original data at three levels, and constructs an analysis framework of government dishonesty behaviour in PPP projects from three levels: the government side, the participant side and the external environment. The research shows that the factors at the government level are the key internal driving factors, which directly lead to the generation of government dishonesty. The factors at the participant level and the external environment level are the external driving factors, which indirectly lead to the government's dishonest behaviour. The research results provide countermeasures and suggestions for further governance of government credit in PPP projects.

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Peer-review under responsibility of the scientific committee of the Tenth International Conference on Information Technology and Quantitative Management

Keywords: PPP; Government credit; Grounded theory

1. Introduction

The PPP model has been widely popularized in our country because of the strong support of the government. Under the new situation, the government plays a different role in the implementation process of PPP projects. It is not only one of the important participants in PPP projects, but also the agent of the public. Throughout the whole life cycle of PPP projects, the government has responsibilities and obligations, so the government credit plays an decisive role in the smooth implementation of the PPP project. However, in the current process of PPP model development, the government's dishonest behaviour is common. By analysing 17 PPP projects, Xia Qi^[1] pointed out that among the risk factors of PPP projects, the government credit risk (56.25%) far exceeds the second ranked market demand change

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(31.25%). Jing Sun and Yinfeng Shi^[2] believe that the main dishonest behaviour of the government is the weak contractual spirit of government departments, which "prioritizes approval over execution" in the event, and violates project contracts on the grounds of government changes or policy changes. Jia Chen and Daming Wang^[3] believe that government changes, adjustments in the functions of relevant government agencies, or changes in responsible persons may lead to government dishonesty. The government often participates in and controls elements that have a significant impact on the implementation of PPP projects, such as public policy and public power. It is precisely because of this factor that it is difficult for the government and social capital to achieve absolute equality and fairness. The government's own shortcomings in PPP capacity, weak sense of contract and other factors, as well as the problems caused by these factors such as decision-making errors, delay in approval and official corruption, make government credit become the key factor for the smooth development of PPP projects.

In view of this, based on the qualitative research method of grounded theory, this study comprehensively selects the literature of CNKI and Web Of Science which are highly relevant and highly cited in the research of government credit in PPP projects for three-level coding analysis, and establishes the driving factor mechanism model with the driving factors and mechanism of government dishonest behaviour in PPP projects as the core. In order to provide reference for reducing the dishonest behaviour of the government of PPP projects.

2. Literature review

In recent years, losses and bankruptcies of PPP projects caused by the lack of government credit have occurred frequently and spread rapidly through network media, attracting high attention from all walks of life. Therefore, domestic and foreign scholars have conducted in-depth studies on the driving factors of government trust-breaking behaviours in PPP projects from different perspectives and using different methods, mainly focusing on three levels. First, the dishonest behaviours caused by the government itself, such as the adjustment of the interests of government departments and the lack of administrative ability of government departments. Huiyu Bao, Xiaoyu Wang and Min Xu^[4] established the government credit evaluation index system for PPP projects from the perspective of WSR, and believed that official corruption and infrastructure supply were the main reasons for the lack of integrity in government. Xiufang Hu and Liming Xia^[5] proposed that lengthy political decision-making, changes in government policies, delays in approval and supporting facilities and services are all driving factors for government trusts. Song J B, Hu Y B^[6] believes that the government's decision-making mistakes and payment arrears are the main reasons leading to the government's breach of trust. Yang, J and Song, L^[7] believe that political performance and fiscal illusions are the causes of serious government credit default. The second is the government's dishonesty caused by social capital. Jikai Li^[8] believed that due to the excessive pursuit of profits by social capital, in the negotiation stage, social capital would try its best to improve project benefits and reduce project costs, forcing the government to transfer part of the benefits in the project construction, which would indirectly lead to the government being unable to afford or unwilling to pay the project expenditure in the later stage of the project, thus leading to the government credit risk. Pengfei Li and Lijun Huang^[9] believe that the government credit default is caused by excessive profit-seeking by social capital or poor management. Third, environmental factors lead to government trust failure, including the fluctuation of social and economic environment and the instability of political environment. Jiabiao Li and Xiaoquan Wei^[10] believed that the reasons for the government's breach of trust were improper laws and regulations, policy adjustment and so on. J. Chen and D. Wang^[11] believed that relevant laws and regulations, economic factors and other external environmental factors were the main reasons leading to the government credit default.

Based on the domestic and foreign literature on the government credit of PPP projects, it can be seen that the academic research on the government credit of PPP projects mainly focuses on the analysis of the driving factors of the government credit default of PPP projects from the specific PPP project failure cases or existing literature, and according to the expert scoring method, questionnaire survey method, AHP and other methods rank the importance of credit evaluation indicators, but lack in-depth research on the driving mechanism of government's dishonest behaviours of PPP projects. Therefore, based on the grounded theory, this paper explores the driving factors and mechanism of government trust-breaking behaviours in PPP projects.

3. Data sources

The data Of this study are from the journal literature of CNKI and Web Of Science with high correlation and citations on the government credit research of PPP projects. The number of literature is based on the principle of theoretical saturation. In CNKI, the relevant literature was retrieved with the theme of "PPP government credit". A total of 191 papers were retrieved, including 58 core papers. Through reading and screening the retrieved literature, 45 papers were sorted out for this study. In the selection Of English literature, we searched in Web Of Science (WOS) with the theme of "PPP and Government Credit", and finally selected 5 English papers with high citation.

4. Coding analysis

4.1. Open coding

Open coding is also known as first-level coding. Its first step is to take the research problem as the core, analyse and summarize the clear and complete similar expression in many original materials, extract it, summarize it into the initial concept, and on this basis, categorize the initial concept. In the large number of original data collected about the government credit research of PPP projects, It is analysed and summarized as the initial coding node^[12]. Open encoding is shown in Table 1.

Table 1. Open coding analysis

Initial category	coding	Initial concept	Overview of References
Government department factors	A1	Decision error	Due to the local government's decision-making mistakes, the project progress is slow, thus affecting the government's credit ^[13] .
	A2	Delay in approval	If the withdrawal of social capital is caused by the delay of government approval, the corresponding consequences shall be borne by the government.
	A3	Weak sense of contract	The government's weak awareness of social contract leads to the lack of restriction of public power, which leads to the government credit risk.
	A4	The responsibilities of various departments are unclear	The lack of clarity of responsibility among government departments has slowed down the progress of projects and caused the government to break its promise.
	A5	The government's PPP capacity is insufficient	The experience and ability of government PPP project reflect its willingness and ability to keep faith to some extent.
Government implementation agency factors	A6	Official corruption	Local governments make improper project decisions driven by short-term interests, which leads to unsustainable projects and affects government credibility.
Government investor representatives factors	A7	The change in government intervention	Most PPP projects have a long life cycle and have gone through multiple administrations, which often results in new officials ignoring old debts ^[14] .
	A8	Government intervention	Excessive government intervention leads to tension in the cooperation relationship, which causes project risks ^[15] .
	A9	Funding difficulties	Due to economic factors and their own financial situation, the government departments can not invest on time, resulting in slow project progress, which leads to the government credit risk.
Social capital factors	A10	Excessive profit-seeking of social capital	Due to the excessive profit-seeking of social capital, the government is forced to give up part of its interests in the PPP project cooperation, which leads to the government losing the motivation and willingness to continuously perform the contract in the later stage of the project and causing government default.
	A11	Poor management of social capital	The improper operation and management of social capital causes problems in the supply of public goods and public dissatisfaction, which makes the local government have to terminate the contract under the double pressure of the economy and the public. Although the consequences should be borne by the social capital party, the negative impact is mostly borne by the government, which causes credit risk.
	A12	The project conflicts with the public interest	If the rights and interests of the company conflict with the public rights and interests, or cause public opinion dissatisfaction, then the government will put the public rights and interests in the first place, or under the pressure of public opinion, the original plan cannot be carried out, thus causing the government credit risk.
	A13	The infrastructure is imperfect	Poor infrastructure surrounding PPP projects has led to public opposition.

Cooperative risk factors	A14	Unclear boundaries of responsibility	Unclear boundaries of responsibility lead to fragile partnerships.
	A15	Improper risk allocation	Improper risk allocation of PPP projects will create "hidden" obstacles to the smooth implementation of PPP, thus increasing the probability of government credit risk.
	A16	The contract is unclear	Due to the ambiguities in part of the contract, both parties have buck-passing on the contract, which seriously affects the cooperative relationship and then affects the project schedule.
	A17	Low project transparency	To a certain extent, the government with lower project transparency is relatively weak in its willingness and ability to keep faith.
Policy environment factors	A18	Lack of relevant administrative systems	The lack of effective credit system in the operation of market economy will cause the government, enterprises and individuals to lack the concept of good faith, lack of restriction and guidance.
	A19	Policy change	The change of related policies hindered the smooth progress of the project.
	A20	Low policy implementation	Poor policy implementation has resulted in the loss of benefits of PPP projects.
	A21	Insufficient policy support	Resource input has a great impact on the level of implementation of policy objectives. The more the government attaches importance to the aspects, the stronger its implementation will be, and the stronger its willingness and ability to keep faith in this aspect will be.
Economic environment factors	A22	variation of interest rate	In the process of project construction and operation, the interest rate benchmark cannot be guaranteed to remain unchanged. When the bank interest rate increases, the project cost will also increase correspondingly, thus increasing the risks faced by the government.
	A23	Government fiscal deficit	Generally speaking, the weaker the tax scale and financial resources of the government, the more unable to ensure the stability of its tax revenue, the higher the risk of its debt repayment, the slower the implementation speed of PPP projects.
	A24	Financing difficulty	It is also an important factor affecting the government credit that the project can not be carried out smoothly because of financing difficulties.
	A25	Fluctuations in market demand	The construction and operation of PPP projects have a long time span, and it is difficult for both countries and enterprises to predict the development trend of the future market. If the price of raw materials rises sharply or the relationship between supply and demand changes greatly, it is often difficult for the government to fulfil its promise, eventually forced to led to the suspension of the project or fail.
Market environment factors	A26	Competition of similar projects	The substantial commercial competition between the new projects of the government sector and the PPP project results in the significant reduction of the latter's income level.
	A27	The degree of market openness is low	The more open the market, the stronger the government's spirit of contract and ability to govern.
	A28	Imperfect legislation	Imperfect legislation leads to lack of restriction on government credit.
	A29	Changes in laws and regulations	The updating and revision of laws and regulations related to the project will lead to the change of project contract and other related factors, which will lead to the renegotiation of the project at the least, or the failure or forced termination of the project at the worst, thus causing the problem of government credit.
Legal environment factors	A30	Weak law enforcement	The perfection of laws and regulations is far from enough. In order to realize the normal and efficient operation of credit legislation, strict law enforcement must be ensured.
	A31	Judicial laxity	The consequence of lax justice is that the government can act without following the law, enforce the law at will, and replace the law with power. This has also led to the excessive use of government power, ultimately leading to a loss of trust to the people.

4.2. Spindle coding

Spindle encoding, also known as secondary encoding, clusters initial concepts and categories based on continuous and repeated testing of open encoding results, and induces categories that are relevant in causal, master-slave, and other relationships. Based on this, a more general main category is constructed^[16]. This article deeply sorts out and analyses the causal relationship and logical order between the initial categories, and identifies three main categories, namely: government level factors, participant level factors, and external environmental level factors. The main categories obtained through spindle coding and their corresponding subcategories and connotations are shown in Table

2.

Table 2. Spindle Encoding Analysis

Main category	Subcategory	Number	connotation
Government-level factors C1	government department factors	B1	Due to delays in approval, mistakes in decision-making, unclear responsibilities of various departments and other reasons, the project cannot proceed smoothly, thus resulting in government dishonesty.
	government implementation agency factors	B2	Including a decline in government credit due to government corruption or change of government.
	government investor representatives factors	B3	Including the impact on the credit of government departments due to funding difficulties and excessive government intervention.
Participant-level factors C2	Social capital factors	B4	The project cannot proceed smoothly due to excessive profit pursuit or poor management of social capital. Although the social capital should be responsible for this problem, it may eventually become a unilateral termination agreement of the government, thus affecting the government's credit.
	Social public factors	B5	Due to the conflict of interest with the public, public opinion is aroused, which leads to the government has to forcibly terminate the contract, thus affecting the government credit.
	Cooperative risk factors	B6	Due to tense or even broken cooperation relationships, the project cannot proceed smoothly, which is also a key factor affecting PPP government credit.
External environment factors C3	Policy environment factors	B7	The failure of PPP projects due to the imperfection and discontinuity of policies will affect the government credit.
	Economic environment factors	B8	Including factors such as changes in interest rates and government financial conditions. Economic factors are the key to the success of PPP projects and also the key factor affecting PPP government credit.
	Market environment factors	B9	Government dishonesty caused by risk factors such as changes in market demand and project uniqueness risks.
	Legal environment factors	B10	Including the government credit risk caused by the failure of PPP projects due to the imperfect and discontinuous laws.

4.3. Selective coding

Selective coding is also known as three-level coding, and its analysis process is relatively complex and abstract. Based on the first and second level encoding, further analysis and summary of the data are carried out, and the relationships between various categories and concepts are deeply analysed. The categories are continuously supplemented and improved, and a theoretical framework is established based on this^[17]. In this study, "the driving factors and mechanism of government dishonesty in PPP projects" are determined as the core category. The core category can be summarized as follows: factors at the government level, factors at the participant level, and factors at the external environment level will affect the government credit in PPP projects to different degrees.

4.4. Model construction

The above "story line" can be summarized as follows: the factors at the government level formed by the factors of the competent government department, the factors of the government implementation agency, and the factors of the representative of the government investor are the internal driving factors, which directly lead to the generation of the government's dishonesty in PPP projects. The factors at the participant level formed by public opposition, social capital and cooperation risk, as well as the factors at the external environment level formed by policy, legal, market and economic factors are external driving factors, which indirectly lead to the government's dishonest behaviour in

PPP projects. The three main categories of government level factors, participant level factors, and external environment level factors have a significant impact on the government's dishonesty behaviour of PPP projects, so as to construct the "driving factors and mechanism model of government dishonesty behaviour of PPP projects", as shown in Fig. 1.

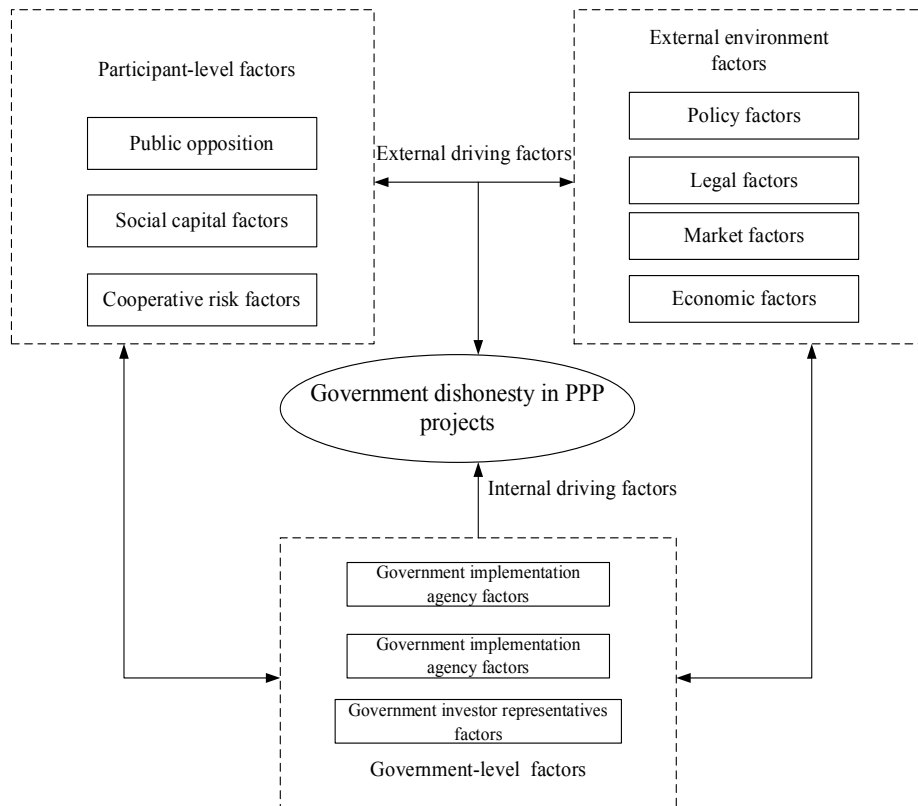


Fig. 1 Model of drivers of government dishonesty in PPP projects

4.5. Theoretical Saturation Test

It is generally believed that the theoretical model reaches good saturation when researchers cannot further develop new category features and generate new relational structures even by obtaining additional data. This study conducted coding analysis on the remaining 5 papers and found that neither new concepts nor new connections were formed. Therefore, it can be determined that the theoretical model is saturated.

5. Model explanation

After the above coding process, the research shows that the driving factors of government dishonest behaviour in PPP projects are mainly at the government level, the participant level and the external environment level. Based on this, the driving mechanism model of government dishonest behaviour in PPP projects is constructed.

5.1. Government-level factors

The government-level influencing factors are the important main categories leading to the lack of government credit in PPP projects, which include three subcategories: government department factors, government implementation agency factors, and government investor representatives factors. Government department factors: On

the one hand, government department refers to the lack of operational ability and experience of the PPP project and the unfamiliarity with the project process, which leads to decision-making errors and approval delays, thus delaying the project progress and affecting the government credit. On the other hand, it refers to the government's dishonest behaviour caused by the weak contract intention of the competent department and the unclear responsibility among various departments. Government implementation agency factors: On the one hand, the corrupt behaviour of the person in charge of the implementing agency of the PPP project, such as providing information to the social capital or accepting bribes, will inevitably make the government at a disadvantage in the negotiation with the PPP project, resulting in the unfair distribution of interests between the two parties and the reluctance or inability of the government to continue to perform the agreement in the later stage, thus leading to the risk of government default. On the other hand, it means that the change of government or person in charge may cause the next government to overturn the previous government's commitment behaviour, thus leading to the government's dishonest behaviour. Government investor representatives' factors: It mainly refers to the failure of project financing and the lack of government credit due to the excessive intervention of project sponsor representatives and funding difficulties.

5.2. Participant-level factors

The participant-level factors are the external driving factors that lead to the dishonest behaviour of the government in PPP projects, including the social capital factors, Social public factors and the Cooperative risk factors. Among the three sub-categories, the cooperation risk factors have the highest driving degree to the government credit of PPP projects. The cooperation risk factors are mainly affected by unclear contract agreement, unclear responsibility boundary, improper risk allocation and low project transparency. All work matters should be carried out in accordance with the contract. If there are no clear provisions in the contract, and factors such as low transparency of PPP projects leading to information asymmetry between both parties, it is easy for both parties to have conflicts during the cooperation period, which increases the risk factors of cooperation and indirectly leads to the occurrence of government dishonesty in PPP projects. At the same time, due to excessive profit seeking or poor management by social capital, the project cannot proceed smoothly. Although this issue should be the responsibility of the social capital party, it may eventually evolve into a unilateral agreement termination by the government, thereby affecting the government's credibility. Finally, the public, as a broad third party in a PPP project, will have to forcibly terminate the contract once the PPP project is resisted by public opinion, thus affecting the government's credit. It can be seen that the participant-level factor is an important external driving factor that leads to government dishonest behaviour in PPP projects.

5.3. External environment factors

External environment factors are also important driving factors that lead to government dishonest behaviours in PPP projects, including policy factors, legal factors, economic factors and market factors. according to the results of literature analysis, policy and legal factors have a higher degree of driving for government dishonest behaviour. Policy factors mainly refer to the government's breach of trust in PPP projects caused by the lack of relevant administrative system, policy changes, low policy implementation and insufficient policy support. For example, due to policy changes, the Yang Pu River Bridge needs to check fixed income projects, which leads to the government's early repurchase and thus triggers government credit risk. Legal factors mainly refer to the dishonesty of the government in PPP projects caused by changes in laws and regulations, imperfect legislation, weak enforcement, and lax judiciary. Legal risk factors such as changes in laws and regulations may lead to changes in contract performance, leading to the rupture of cooperation relationships, causing cooperation risks, increasing financing difficulties, and ultimately preventing the smooth progress of the project, indirectly leading to government dishonesty. Economic factors refer to the dishonesty of the government in PPP projects caused by factors such as interest rate fluctuations, financing difficulties, and poor government financial conditions. Relatively speaking, regions with poor government financial conditions often have relatively immature capital markets. In this case, the probability of the government providing implicit guarantees for project financing is relatively high, This indirectly leads to the occurrence of government dishonesty. Market factors refer to the government's dishonesty in PPP projects caused by changes in market demand, low level of market openness, and competition from similar projects in the market. For example, The Channel Tunnel

project is mainly due to competition from similar projects, which leads to weak government performance and can only be solved by extending the concession period, indirectly leading to the occurrence of government dishonesty. It can be seen that external environmental factors are important external driving factors that indirectly lead to government dishonesty in PPP projects.

6. Conclusion and suggestion

6.1. Conclusion

This paper uses the qualitative research method of Grounded theory to identify a total of 31 driving factors for government dishonesty in PPP projects through three-stage coding, which can be summarized into 10 subcategories: government department factors, government implementation agency factors, government investor representatives, social capital factors, social public factors, cooperation risk factors, policy environment factors, economic environment factors, market environment factors, legal environment factors, as well as 3 main categories : government-level influencing factors, participant-level influencing factors, and external environment factors. Based on this, the paper constructs a mechanism model of driving factors of government dishonesty in PPP projects, and effectively explains the formation mechanism and process of government dishonesty in PPP projects.

6.2. Suggestion

6.2.1 Enhance the awareness of government departments' contracts and establish a mechanism for accountability for breach of contract

(1) Enhance the awareness of government departments' contracts. The spirit of contract of government departments is the key to ensure the smooth progress of PPP projects, and it is also the embodiment of good credit of government departments. If the government lacks the spirit of contract, it will inevitably affect the promotion of local PPP model and government credibility. Therefore, it is necessary to improve the awareness of contract of government departments. On the one hand, government departments should establish a good working attitude and style. Fulfil their commitments in strict accordance with the contract provisions and standardize the cooperation with private capital. At the same time, strengthen the macro-control of PPP projects, and establish a dynamic adjustment mechanism to supervise and adjust the whole life cycle of PPP projects, so as to achieve the goal of mutual win-win. On the other hand, detailed punishment regulations should be formulated to improve the mechanism for government departments to fulfil their promises and keep promises. For government dishonesty caused by failure to fulfil government contractual obligations or corrupt behaviour, detailed punishment rules shall be formulated, and improving the government department's trustworthiness mechanism to strengthen the government department's contractual awareness and reduce government credit risks.

(2) Establish a mechanism for accountability for breach of contract. Building a smart platform, once government credit risks occur, the causes of the problem will be analysed through government departments and third-party regulatory agencies, identifying the project nodes that led to government dishonesty, and tracing the source to determine the head. By establishing a PPP project default accountability mechanism, government officials of PPP projects cannot abuse their power, nor can they forcefully launch PPP projects for the sake of political performance, because if there are problems with PPP projects, regardless of whether they are still responsible for the project, they will be held accountable. Therefore, the establishment of a default accountability mechanism can effectively solve the government credit risk caused by government transition or changes head.

6.2.2 Improve relevant policies and regulations and form a good cooperative relationship

(1) Enhance the degree of information disclosure and form a good cooperative relationship. Low information transparency is the key driving factor affecting the cooperation relations, and the cooperation risk factor is an important external driving factor leading to the government's dishonest behaviour. Therefore, it is necessary to further reduce the government's dishonest behaviour caused by the low transparency of the project, ensure the fairness of the PPP

market through information disclosure, and prevent the phenomenon of information asymmetry. Build a PPP project credit information platform, achieve interactive connection of credit data, timely release of PPP project credit information, and promote open and transparent market transactions. By real-time disclosure of information, various participants in PPP projects can more conveniently understand project information and the credit status of each participant, and preventing government defaults.

(2) Improve relevant policies, laws and regulations. On the one hand, important documents and laws in PPP projects should be improved and revised to address issues such as unclear applicable terms, overlapping and conflicting laws and regulations, and even legal gaps in the PPP model, so as to provide legal basis for the rights of both parties. On the other hand, improve institutional policies and develop detailed and actionable PPP model guidelines. Emphasize targeted and professional guidance for the PPP model. Engineering thinking can be utilized to make more use of flow charts, task lists, and standardized document templates to explain guiding policy documents, thereby more effectively eliminating the lack of government credit in PPP projects caused by blind or non-standard issues.

Acknowledgements

This work was supported by Science and Technology Research Project of Education Department of Hebei Province(QN2021221).

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