

An Analysis on the Influence Factors of the Public-Private Cooperative Behavior in the PPP

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Abstract

PPP mode is a long-term cooperative relationship between the government and the social capital. It is widely used in infrastructure and public services because of its efficiency and financing advantages. This paper will analyze the characteristics and essence through the definition of PPP. According to its operation process, the PPP project life cycle can be divided into six stages. By analyzing the influencing factors of the cooperative behavior in each stage, the public-private cooperative behavior influence factor mode can be built.

Keywords

PPP Mode; Cooperative Behavior; The Influence Factors.

1. The PPP mode

1.1 The concept and characteristics of PPP

The definition of PPP is very extensive. Scholars from different countries or regions have different views. In 2014, the PPP is defined as a long-term cooperative relationship in the field of infrastructure and public service by China's Ministry of Finance. The definition indicates the application fields, the essence and its characteristics from the broad category. Firstly, the PPP mode is mainly applicable to the construction and management of infrastructure and public services. The infrastructure is a project to provide public facilities for the material production of human beings. The public service is a project to provide production and living services for all public or part of the public. They are fundamental to the economic development and people's life. They are necessary for the survival of the city and the development of the country. Secondly, many studies suggest that the essence of the PPP mode is cooperation. For example, Sun Jie and Jia Kang recognize the essence of PPP is the public-private cooperation rather than the simple competition from the conceptual level. Finally, the long-term cooperation is one of the characteristics of PPP mode and the cooperation period normally for 15 to 30 years. The public-private cooperation behavior often becomes very complicated because of various uncertain factors during the cooperation.

Compared with the cooperation between individuals and individuals or groups and groups, the PPP mode has its own features:

(1) Particularity of the cooperative object

Both sides of the cooperation are government and private investors. ① The status of the two sides is unequal. The sponsor of the PPP projects is generally government departments who have the right to allocate resources, the right to amend the policy, the right to project decision-making and other rights. Whereas, the private investors which are the actual operator of the PPP project often carry out activities under the constraints of government departments. Li et al. analyzed the reality of the PPP mode that the public sector occupies the leading position and the private sector's activity space is set by the public sector. Their status is asymmetric that the government is relatively strong. ② The interests of the two sides are conflict. Government usually tries to maximize social and public

interests, whereas private investors try to maximize their own interests. As Xu Na said, the government concerned whether it will alleviate the contradiction of urban infrastructure supply, improve the quality of urban residents' life, bring serious pollution to the environment, can promote the development of local economy after the completion of the project, whereas the private investors concerned about the market demand, the stability of the income and the recovery of the investment funds.

(2) Specificity of the construction projects

The PPP mode is applicable to the field of infrastructure and public services. However, not all the projects can use PPP mode. Xu, Wang, Du et al. demonstrate that the PPP mode is more suitable for the quasi-operational infrastructure projects from the qualitative or quantitative point of view. They concluded that the scope and category of the project, mainly in the transport (such as rail, tunnel, subway, etc.), science and sports (such as the Convention and Exhibition Center, Art Center, science and sports venues, etc.), social security (such as public housing, sewage treatment plant, garbage disposal factory, etc.) etc. The characteristics of such projects are high investment, long payback period, cash flow uncertainty, higher technical requirements, difficult to operational management and so on. The Treasury put forward that suitable for using PPP mode of the project is characterized by relatively flexible price adjustment mechanism, the relatively high degree of market, relatively large investment scale, long-term steady demand, etc. Thus it can be seen the PPP project has a distinct difference from the ordinary construction projects.

(3) Incompleteness of the franchise agreement

PPP project through the franchise agreement signed between the public and private parties to clear the project duration of cooperation, the level of fees, the distribution of benefits and other issues, but the agreement has a natural incompleteness. When there is no coverage of unexpected events in the process of implementation of the agreement, the public and private parties can only be negotiated to supplement the agreement to adjust the operating period and other content. Gao et al. proposed that when the contract does not specify the occurrence of unexpected events, the time to compensate for the private sector is more feasible for the government and the private sector.

(4) Complexity of the operation management

On the one hand, the government sector is no longer just the project regulators, but also the investors which on behalf of the public. Thus, the PPP project can't be fully market-oriented operation and management, and it need to consider the premise of the public interest in accordance with the provisions of the government policy to pursue a certain range of corporate profits. On the other hand, infrastructure scale is relatively large, the distinction between the different types is also great, the technology and management ability of the social capital proposed higher requirements, but also put forward challenges to government departments of the coordination management ability.

(5) Rationality of the risk distribution

Private investors who can use their professional knowledge to demonstrate the feasibility of the project began to participate in the project in the demonstration phase, which can exclude the project of technical, economic, operational management and other aspects unfeasible. Meanwhile, the private and public discuss the risks the project may face so as to take effective risk response plan that the risk will be assigned to the most capable to bear in the whole life cycle. Wang et al. demonstrate that all risks are assigned to public or private who is the most suitable for bear so that the overall risk of the project cost lowest and overall satisfaction with the largest risk response plan.

1.2 The operation of PPP

The operation of PPP is determined by the specific project. Although different projects have different kinds, it generally experience the project preparation stage, bidding stage, stage of the financing, the construction phase, the operation stage, the transfer stage, as shown in Figure 1.

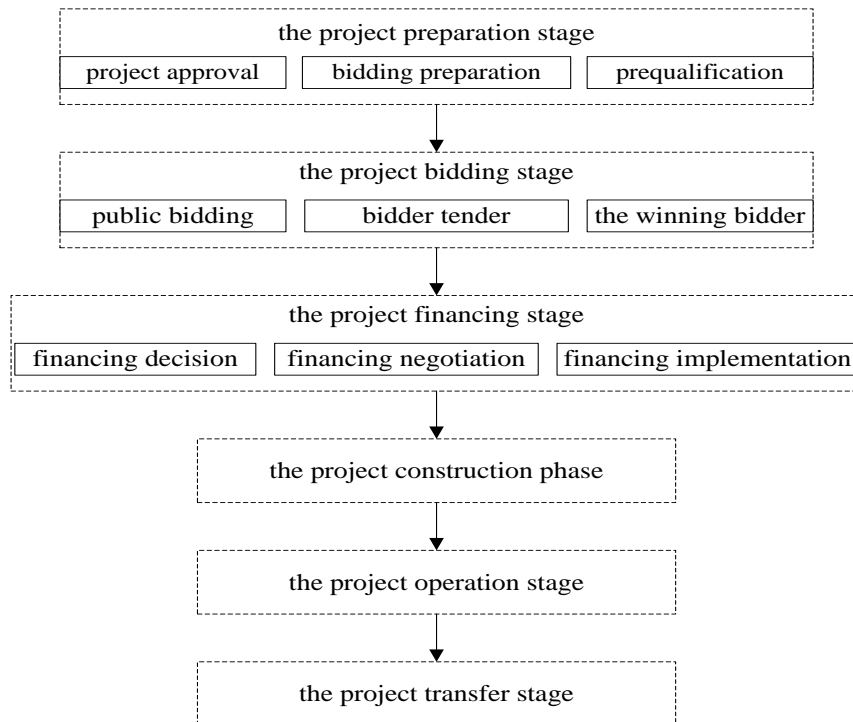


Fig.1. the operation of PPP

2. The main influencing factors of public-private cooperative behavior in PPP

2.1 An overview of the influencing factors of cooperative behavior

With the development of behavioral economics, domestic and foreign scholars use different methods to study the cooperative behavior from different perspectives. Robert Axelrod believes that the cooperation behavior in today's society can be seen everywhere and become the foundation of modern civilization, but as everyone knows, human beings are not angels, they tend to consider their own interests first, which makes the cooperation can't be achieved in any condition.

Pruitt & Kimmel pointed that the expectations of other people's behavior and the trust of other members have positive effects on the cooperative behavior of the members. Hu and Ma explored the impact of highlighting the identity on cooperative behavior of the public goods dilemma from the cooperation motivation stimulation and damage perspective, the results show that highlighting collaborators and non-cooperated are two ways to enhance the level of cooperation, but the former were affected by intrinsic motivation and the external motivation and the later will undermine the intrinsic motivation while the extrinsic motivation plays a main role to improve the cooperative behavior. Yan and Wang found that cooperative behavior is indeed affected by the members' value orientation through the laboratory method of dilemma simulation, and the cooperative members will have more cooperative behavior. Xie et al. studied the impact of institutional design, group identity and unequal status on cooperative behavior from the perspective of evolutionary psychology.

In summary, trust, cooperation motivation, value orientation, institutional design, group identity, the unequal status etc. will influence cooperative behavior. However, the influence factors of the public-private cooperative behavior in the PPP have its particularity.

2.2 Analysis on the main influencing factors of public-private cooperative behavior in the PPP

According to the above analysis on the literature of cooperative behavior, it can be seen that the influence factors of cooperative behavior is very extensive. In order to identify the main factors affecting the public-private cooperative behavior, this article attempts to analyze the influence factors of each stage from the whole life cycle of the PPP project.

(1) The project preparation stage

Decision making ability of government departments (officials): Liu and Han put forward that whether the government can provide high quality and efficient public services closely related to the government's ability, and the government's ability has a significant positive impact on the government trust. The government generally proposed a PPP project based on the medium and long-term economic and social development plan and the social demand for infrastructure. In the preparation stage, the project feasibility study including the evaluation for the aspects project market, technical and economic, the comprehensive assessment of private capital attraction, the strength and risk tolerance of the private capital, the bidding preparation including project bidding organization, making the bidding documents, publishing the project information etc., pre-qualification including comparative analysis of the social capital funds, experience, reputation, technology etc. All these have put forward higher request to the decision-making ability of the government officials.

(2) The project bidding stage

Trust: Liu proposed that the private sector will be not interested in the project because of high risk and inadequate protection of the public sector and the project will not be achieved. In fact, the social capital participate in the partner selection mechanism is the starting of the PPP mode, it usually made the choice of whether to trust the government and participant in the bidding or not based on the commitment level, supporting degree, policy changes of the previous PPP project etc.

Unequal status: Li found that the government plays a dominant role while the private space is set by them, so they are substantially in unequal status. At the end of the bidding, government departments will negotiate with the first winning bidder on the project quality, the level of providing the product/service, risk sharing, benefit distribution, government guarantee etc. The unequal status may lead to the signing of an unfair franchise agreement, while the implementation of the agreement may face hidden dangers.

(3) The project financing stage

The support of the government: Infrastructure may be large and complex system engineering, the construction funds of which may be a large scale and the social capital financing efforts is not enough. Equity funds invested by the government, guarantees for loans provided by the government and even government credit are important factors affecting the financing.

(4) The project construction phase and operation stage

Technology and operation management level of the social capital: The purpose of PPP is not only to finance, but also to provide the public with infrastructure or public services of reasonable price and guaranteed quality in a timely manner. The social capital of abundant capital, advanced technology and rich experience can make up for the defects of the government department, whose good professional technology, rich operation management capacity has played an important role in the PPP project.

Supervision mechanism: After the PPP project is completed and entering the operational phase, managers will organize relevant manpower and material resources for operating the project and maintaining the project facilities, then the government departments need corresponding supervision to meet the requirements of the public. With the gradual increase of the PPP project, the regulatory forces showed significantly less phenomenon, and this has caused a series of problems, such as poor regulation, single regulatory approach, lack of regulatory basis etc.

(5) The project transfer stage

Project evaluation arrangement: After the operation period, operates should put the operating power, usufruct and project facilities back to the government or the designated receiving mechanism. In order to ensure the project can continue to operate and good maintenance, government departments need to do a comprehensive and detailed assessment of the project quality, lifetime technical level and the debt situation, which put forward higher request to the project evaluation and arrangement of government departments.

In general, the above factors can be summed up as the 5 aspects of cooperation ability, trust, unequal status, institutional design, cooperation motivation, which provides a basis for the proposal to improve public-private cooperative behavior in the PPP.

3. Suggestions on improving the public-private cooperative behavior

3.1 Cooperation ability

The government cooperation ability is decided by the government officials who play a great role in the project bidding, contract negotiation, supervision, transfer evaluation etc. They often have no experience in the field unacquainted, a professional consulting company can be invited to training and guidance for the government officials before starting the project, the government officials should participate in the implementation of the project and learn advanced technology and management experience from the social capital to improve their ability with the fastest speed, the cooperation ability of government departments can be improved eventually.

The cooperation ability of social capital is mainly reflected by its capital, technology and management level, which has abundant capital, advanced technology and rich management ability is the one that the government departments are trying to seek. In order to make the government departments can choose a high efficiency partner in a short time, we can establish the cooperation enterprise information database. All kinds of enterprises can be divided into different levels in the database. Completed projects, financial status, technical level, management ability and the soft power such as culture and value orientation can be basis of the classification.

3.2 Unequal status

The lifelong responsibility system of government officials can be established to restrain the strong government departments. And the situation of officials involved in the project should be published to the public through a public platform, which can accept the public and social capital supervision. This system, on the one hand, can prevent the government officials to damage the interests of the social capital with its strong position but escape from the contractual liability, on the other hand can also prevent excessive subsidies even improper benefit transportation to the social capital.

3.3 Institutional design

The strict supervision mechanism should be established through the Internet platform. The PPP projects are generally supervised by the competent department of industry and the relevant departments, which not only waste the resources of the government but also make regulatory inefficiency. Third-party regulators can be introduced to carry on the strict supervision of the project operation management through the Internet platform, which can guarantee the fairness and justice of the supervision also can provide more time and energy for the government to do more things should be done(formulate policies and regulations, supervise regulators, etc.).

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