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Abstract. As the extensively use of PPP scheme, the lack on the theory guidance for system establishment are gradually getting more noticed. Based on the year and research topics, the paper classified PPP project relevant literatures in recent eight years. It explored the current research hot issues of PPP projects and summarized the corresponding research methods and conclusions. Hope provide theoretical basis to establish the system.

Introduction

Public–Private Partnerships (PPP) has been widely applying in infrastructure sectors, such as transport, education, healthcare, and water and wastewater treatment [1]. Despite the wide PPP application, there are still a number of failed cases, such as the Hangzhou Bay Cross-sea Bridge Project and so on. Therefore, PPP practices were not always gained satisfactory outcomes. In the institution change theory, Douglass C. North considers that System is an endogenous variable and it has significant influence on economic growth. This theory can account for why some projects failed: the lack of unified system and the theoretical guidance.

A large amount of PPP project practices provide typical cases for academia researches. In turn, the academia researches should provide the corresponding theoretical guidance. And that is what we will do in this study: after analyzing the literatures of PPP project, some theory guidance will be given for the establishment of relevant system.

Research Design

Literature Resources

The paper mainly applied the qualitative investigation, with the approach of literature research. It carried out through many databases, which include China Academic Journal Network Publishing Database (CAJD), China Doctoral Dissertations Full-text Database (CDFD), VIP network Database, Wan Fang Database, Engineering Village, Science Direct and Wiley online library. Then chose the Subject/Title/Abstract of PPP, document type of journal article and doctoral thesis, age limited in recent eight years. After technically obeying the selection rule that the value of impact factor should be more than one, a hundred pages of literatures have been selected for this meaningful research.

Research Methodology

Time Analysis. This analyze described the frequency of the literatures from 2008 to 2016. During the corresponding period, the main reasons for the change trend were briefly explained, which can help to forecast the trend in the future. A solid foundation was laid for the theme of the later study.

Theme Analysis. This analyze classified the literature with the same theme. Then, found out the hot issues in PPP project researches through chart analysis. Obviously, it provided basis for the choice of research topics.
Literature Analysis

Based on Time

According to VIP network Database, the trend of PPP research development in China can be obviously found out in Figure1: during the 2008~2009, the amount of literatures was rising gradually. In 2010~2013, it grew slightly but steadily. As the global financial crisis stroke the world economy in 2008, making the enterprises investment depressing and even some companies bankrupted. This took them a long time to recover. However, in 2014~2016, the post number rocketed, which have a great relevance to the government policies. For instance, the National Development and Reform Commission and Ministry of Transport of the People’s Republic of China have issued a joint declaration (traffic infrastructure construction plan in three years) in 2016. The declaration said that during 2016~2018, there would have three hundred and three projects being carried on, involving up to 4.7 trillion Yuan. As we can see form above, accompanied with economy booming, the construction of infrastructure projects are in great need, which sincerely call for an effective and efficiency cooperation scheme to fulfill project running.

Based on Theme

As we can know form the figure 2, the majority of PPP relevant researches were focused on risk allocation, for it plays an important role on the successful of one project. The other subject is Value For Money (VFM), as it has become the most inevitable assessment method during the project decisions. Fourteen percent articles have introduced current situation both in China and abroad. The immature developing situation can account for this phenomenon. Ten percent literatures were tending to learn experiences and lessons from some typical project cases. What is more, there are also some subjects such as the operational system, contract theories, which all working on realizing the best performance of PPP project.

The top three are risk allocation, VFM and the introduction of current situation. The introduction relevance literatures normally focused on definition, the history of development and construction scope evaluation. Although it helped popularize PPP projects, the guiding significance for practice is slightly. Through comparative analysis, we chose the subjects that in a relatively high level, which is risk allocation and VFM, respectively account for 25% and 16%.
Contents of Hot Issues

VFM Correlational Studies

The Applicability. Many countries, like the National Audit Office (NAO) in United Kingdom (UK), have stipulated value for money (VFM) as an effective method for project feasibility analysis. Recently, the Ministry of Finance of the People's Republic of China has published *The PPP value evaluation guidelines (trial)*. It said that the VFM method should be used in preparation for the PPP project to identify or to conduct value evaluation.

Theoretical Summary. The expert evaluation, expert discussion, Delphi method and Brainstorming are now commonly used in qualitative evaluation [2]. The quantitative evaluation system of VFM unfold with the comparison of PSC (Public Sector Comparator) and LCC (Life Cycle Costs). LCC starting from the long-term economic benefits of the project, fully consider the whole life cycle cost occurs in the project construction, operation, maintenance. Many scholars recognized the cost can be divided into direct costs, indirect costs and special cost three parts [3,4].

Conclusion. Whether the PSC evaluation is reasonable or not are controversial. Some scholars consider that the discount rate and the determination of value at risk lead to the uncertainty of evaluation of PSC results [3]. What is more, there also several types of suggestions for improvement. Firstly, *integrate feasibility study and PSC evaluation method*. At present, China mainly use the feasibility study to evaluate public projects, while the developed country like the UK, is applying the PSC evaluation method in project decision. So the combination of the feasibility study and PSC evaluation should be popularized. Secondly, *establish relevant functional departments*. The foreign successful operation experience is that most countries have set up special institutions to strengthen the management of the PPP project. At the same time, by the help of the relevant departments, government should strengthen the cultivation of specialized personnel system for VFM method. Thirdly, *standardize the bidding transaction process*. As the existence of information asymmetry, the government departments should strictly standardize the government bidding process according to the principle of "openness, fairness and justice".

Risk Allocation Correlational Studies

The Applicability. As the characteristic of PPP project is large scale, high risk degree and long operation period, the development of risk sharing is getting more and more emphasized.

Methodology Summary. Through a large number of literature analysis, the distribution of research methods can be: *Mathematical models*. The game theory was most commonly used, such as stochastic cooperative games, Sub-game perfect Nash equilibrium [5] and stochastic cooperative games [6]. All of those researches were tend to give an optimal risk allocation proportion mode.
between public and private. The other theories are Monte Carlo Simulation and grey correlation model. They evaluated the risk coefficient to better the risk allocation strategy. Finance theory. The Real Option Technique was used to analyze the traffic risk allocation strategy which based on bilateral government guarantee [7]. Contract theory. The incomplete contract theory was for dynamically deconstruct the owner and the contractor risk allocation distribution pattern and build the initial risk allocation and risk reallocation theoretical framework [8].Case discussing-analysis method. Case analysis methods were commonly used to summarize the type risk factors and determine the principle of risk allocation.

**Conclusion.** At present, most research emphasis risk allocation in the process of contracting, hoping to make a reasonable incentive effects with the initial terms. But there are factors like the bounded rationality, uncertainty of the future, the external environment and the incompleteness of information may affect the performance of the project. The signing of the franchise contract is unlikely to complete a clear agreement for the uncertain events occur in the future. Compared with foreign risk allocation strategy, the risk allocation tends to operate based on the perspective of sociology, showing the humanistic care to the private sector [9]. There are also some scholars mentioned the risk reallocation. It reflects the ex-post governance logic, through risk reallocation can make up for the initial contract imperfect aspects [10]. But till now, the ex-post governance is rarely studied, which is the future research direction.

**Summary**

The use of PPP scheme in infrastructure construction is beneficial. With an unstable market environment, establish relevant regulations are crucial. How to do it initatively is very important to promote the performance of PPP project. This paper provides some theoretical guidance through literature analyzing, which can help with establishing a system that meets the needs of reality.

**Reference:**


