

## Procurement model and best bidder selection for public-private partnership projects in China

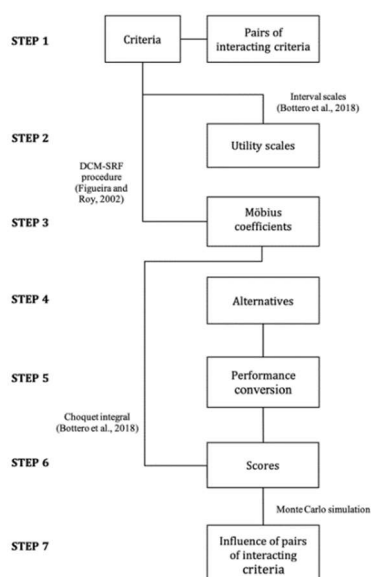
### Summary

Selecting the best bidders for public-private partnership (PPP) projects is crucial for China and other countries to improve the life quality of the public sector. This thesis aims to systematically examine the best bidder selection for PPP projects in China. To achieve this purpose, this thesis first conducts a bibliometric and meta-analysis of studies on PPP in China. One of the major findings is that the procurement phase of PPP projects in China lacks enough attention. Second, this thesis explores the empirical relationship between the PPP project procurement model selection and the internal characteristics of projects in China using the multinomial logistic regression. It is concluded that the basic institutional and legal framework has been almost established. The regression analysis indicates that, overall, open tendering is the most adopted procurement model, and the procurement model selection in China varies significantly with the internal characteristics of PPP projects, such as the investment, duration, and sector. Third, the thesis identifies the critical factors affecting the procurement model selection preferences for these projects by questionnaire survey. The three most critical factors affecting the selection preferences include the laws and regulations, internal characteristics of the projects, and advice from consultant agencies.

Lastly, the thesis combines the multi-criteria decision analysis and Monte Carlo simulation to propose a logical framework for selecting the best bidders for PPP projects considering the interactions between evaluation criteria. This framework is applied to a real sewage treatment plant PPP project in China to validate its usefulness and credibility. These findings have critical policy implications for China and other developing countries. First, a specific high-order and unified PPP law is encouraged to be enacted to standardize the procurement process. Second, the government should systematically organize several rounds of professional training for the officials participating in the procurement process to better understand the five procurement models. Third, the government should slow down the procurement process with careful considerations and fully realize the significance of selecting the best bidder for PPP projects. Fourth, the government should enact relevant laws to regulate local governments to comply with PPP contracts and to attract more private sectors to be involved in providing and delivering infrastructure and services. Lastly, the interactions among the evaluation criteria should be considered when formulating procurement policy.

### Keywords

Public-private partnership, bidder selection, public procurement, multi-criteria decision analysis, review.



Flowchart of the logical framework for selecting the bidders for PPP projects considering pairs of interacting criteria.



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