SWOT ANALYSIS FOR PROPOSING STRATEGIES OF PUBLIC-PRIVATE PARTNERSHIP INFRASTRUCTURE PROJECTS: FROM A DEVELOPING COUNTRY’S PERSPECTIVE

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ABSTRACT

This paper aims to propose a strategic framework for the success of PPP infrastructure projects in Vietnam using Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis. 16 critical success factors (CSFs) were identified from an extensive review. With the professional judgement in round 1, these CSFs were determined as SWOT factors in the Vietnamese PPP projects. Finally, the result of round 2 interviews indicated seven core strategies for effective implementation of PPP projects, including increasing the governmental supervision, improving management ability of public sector, carefully assessing the project feasibility before calling the investment, completing tax preferential policies for PPP projects, completing the legal framework of PPP model, ensuring the stability of the financial structure, reasonably allocating risks between the public and private sectors.

Keywords: Public-Private Partnership, infrastructure, SWOT analysis, strategy, developing country, Vietnam

1. INTRODUCTION

Public-Private Partnership (PPP) has considered as an effective model in providing infrastructure and public services in many developing countries [1]. As a developing country, huge demand for infrastructure services has created a major challenge in improving the economic market in Vietnam [2]. Since 1990, an estimated $18.5 billion has been invested in maintaining infrastructure systems, such as roads, bridges, ports, water treatment, and power [3]. However, the Vietnamese government cannot cover enough money through state budgets or official development assistance loans. Thus, the PPP model has been proposed as a new alternative for infrastructure development.

Although Vietnam has great potential for PPP development, there remain significant difficulties in attracting investors’ participation, such as the lack of a clear policy framework, financial feasibility of the project, unstable financial structure, improper risk-sharing, and the ability of the public sector [2]. Indeed, many investors are seeking new opportunities for PPP projects in Vietnam, but they only participate in these projects when they find a sustainable investment environment that meets their expectations through commitments from the Vietnamese government. Despite publishing the Guideline of PPP Investment in 2018s, PPP procurement remains in the initial stage of development in Vietnam. Notwithstanding, it is expected to be one of the keys to meet the nation’s infrastructure demand. Therefore, the government should raise the effective solutions for attracting the investors in PPP model. The objective of this study is (1) to identify the strengths–weakness–opportunities–threats (SWOT) of PPP projects in Vietnam, and (2) to propose the solutions for improving the effectiveness of PPP infrastructure projects in future with SWOT analysis approach.

2. LITERATURE REVIEW

2.1. Critical success factors of PPP projects

Critical success factors (CSFs) which are key factors contributing to the project success. It was considered as input factors of SWOT analysis in the previous studies. For instance, Reference [4] adopted CSFs as the fundamental input factors of the SWOT analysis for improving the project management process in the municipality. Reference [5] identified SWOT factors from CSFs based on the viewpoint of both investors and contractors for further analysis. Therefore, a literature review was carried out from the
previous studies regarding CSFs of PPP projects in many developing countries.

CSFs are considered as the few principal areas where the satisfactory result is fully essential for project managers to meet their objectives [6]. Since the development of PPP, many researchers have focused on the field of CSFs for exploiting PPP model in which they utilized case studies, questionnaire surveys, and a combination of case studies and questionnaires as the methods for the analysis of CSFs of PPP projects [7, 8].

Reference [9] proposed a framework for future BOT projects in China via 27 obtained CSFs. The result indicated the importance and features of the CSFs in supporting the competitive strategies in BOT projects.

Reference [10] identified 47 success sub factors (SSFs) in using the systematic research approach. They were classified into five principal factors, namely a positive investment environment, economic development, reliable concessionaire selection, stable financial market, and effective risk-sharing. Based on the responses of international experts, the relative significance index was calculated for ranking the principal factors and success sub factors.

Inheriting the result of reference [11], reference [12] ranked 18 factors contributing to the success of PPP projects in Hong Kong and Australia, whereby, favorable legal framework, commitment and responsibility of public and private sectors, strong private consortium, stable macro-economic condition, and appropriate risk allocation were five key factors ensure the success of PPP projects in Hong Kong. In contrast, commitment and responsibility of public and private sectors, appropriate risk allocation, strong private consortium, good governance, and share authorities between public and private sectors were the five most important CSFs of PPP projects in Australia. With the same approach, reference [13] revealed the five most crucial factors for the success of PPP infrastructure projects in UAE, those were commitment of public and private parties, proper risk allocation, committed and competent public agency, transparent procurement, and strong private consortium.

From an expert perspective, reference [14] contributed 18 factors associated with success in Chinese PPP infrastructure projects. The finding indicated that sound macroeconomic system, responsibility sharing, transparent and effective tendering process, stable political and social context, and good government management were five underlying groups of 17 identified CSFs via factor analysis method.

Reference [15] adopted an analytical hierarchy process to analyze the collected data. The result showed that concession agreement, completion on time, reasonable concessionaire selection, ensuring for long-term demand, and sufficient net cash inflow were ranked the top five CSFs of the BOT projects in India.

With 185 completed questionnaires, reference [16] identified the importance of CSFs and the differences in the perspectives between the respondents by the ranking of 18 CSFs in Malaysian PPP projects.

In another study, reference [17] ranked 19 identified CSFs according to importance indexes calculated by SPSS software, where four factors were assessed very important for the success of PPP projects in Syria, those as favorable legal framework, political support, good governance, and stable macro-economic environment.

From the result of the research, reference [18] noticed that legal, contract, risk-sharing, clearly defined mechanism of PPP needs, and strong political support were top-five government-led CSFs for successful implementation of PPP infrastructure projects in Indonesia. These factors might create a stable investment climate for attracting more interest from the private sector.

With a comprehensive literature review, reference [19] selected 26 CSFs and 4 CSFGs contributing to the success of PPP infrastructure projects in Taiwan, namely supportive legal frameworks, a favorable investment environment, selection of appropriate PPP projects, and public support.

Using mean score technique, reference [20] examined and ranked 8 CSFs, 14 positive and negative factors, as well as allocated 42 risk factors to the public and private sectors of PPP projects in Singapore, where, the respondents indicated well-organized public agency, appropriate risk allocation and sharing, a strong private consortium, transparency in procurement, and clearly defined responsibilities and roles as the top five CSFs for PPP projects. Table 1 presents 16 CSFs from the above-mentioned studies.
2.2. SWOT analysis

SWOT analysis is an old model but it is a framework which has stood the test of time and can readily incorporate ideas from the newer approach [21]. In this study, the SWOT analysis is introduced to construct strategies for improving the success of PPP projects in Vietnam. This method defines the strengths-weaknesses-opportunities-threats (SWOT) in PPP context. Whereby, the strengths and weakness are derived by internal factors of the project; the opportunities and threats are identified by external factors [21, 22]. From this viewpoint, many effective strategies will be proposed. A number of prior studies used SWOT analysis as an effective framework in PPP projects and other fields. For example, reference [23] proposed the strategies for both the public and private sectors by SWOT analysis to develop public housing developments. From the perception of both investors and contractors in the project’s lifecycle, reference [5] constructed a SWOT model to identify the potential risks in construction project management. Reference [22] applied SWOT analysis with a case study of Shenzhen city to understand construction waste management in South China. This model also helped domestic private companies identify the strengths, weaknesses, opportunities, and threats in developing infrastructure projects in China [24]. Therefore, the SWOT analysis might be suitable in this study.

3. RESEARCH METHODOLOGY

The process of this study is presented in Figure 1.

4. RESULTS AND DISCUSSION

Determination of SWOT factors

A pilot interview was conducted with five experts from different organizations who had more than ten years of experience in PPP infrastructure projects in Vietnam. They were asked to examine the adequacy of 16 CSFs with PPP context in Vietnam. Finally, a list of 16 CSFs was agreed by the consensus of five experts and no additional factor. This finding is shown in Table 1.

4.1. Data collection and analysis

In round 1, a questionnaire survey was sent to a group of ten professionals, including two experts from the public officer, three from the investor, four from the contractor, and one people of the design firm. They were asked to indicate opinions to identify the SWOT from CSFs by their experience participated in PPP projects. Then, SWOT table will be established based on the consensus in the judgment of this group. According to definitions based on a percentage or proportion, the median threshold, the consensus is determined when a number of the vote in a group greater than 50% [25], in which if there is a non-consensus in collecting process, the interviewer directly contacts with each expert to clarify this problem toward the final decision of the group. After 3 months from 2020.1 until 2020.3, the final table of SWOT analysis of PPP projects in Vietnam has been completed and shown in Table 1.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Governmental supervision</td>
<td>- Commitment of parties</td>
</tr>
<tr>
<td>- Appropriate project identification</td>
<td>- Authority sharing</td>
</tr>
<tr>
<td>- Good governance</td>
<td>- Risk sharing</td>
</tr>
<tr>
<td>- Contract management</td>
<td></td>
</tr>
<tr>
<td>- Payment structure</td>
<td></td>
</tr>
<tr>
<td>- Improve maintainability</td>
<td></td>
</tr>
<tr>
<td>- Technical innovation</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Appropriate toll levels</td>
<td>- Government support</td>
</tr>
<tr>
<td>- Stable political environment</td>
<td>- Legal framework</td>
</tr>
<tr>
<td></td>
<td>- Social support</td>
</tr>
<tr>
<td></td>
<td>- Financial market</td>
</tr>
</tbody>
</table>
Strengths

Governmental supervision - PPP projects are easy to corruption, group interests or the state must spend many public properties in return for works, projects. PPP works and projects have only two partners to negotiate. However, it is difficult to minimize the target of maximizing profits or corruption through the implementation of the project without external control. Therefore, in order to solve this situation, the Vietnamese government strengthened control of the investment process, from preparation to investment and putting it into exploitation and use. Investors must comply the principle of profit and loss, without letting the situation take profit, the investors will receive the remaining losses, requesting to increase service prices or prolonging the time of service charge collection or any damage pushed to the state and the people. Apart from this, reflecting on social also a significant contribution to enhance governmental supervision.

Appropriate project identification - Appropriate project identification also plays a critical role in the feasibility studies of PPP proposals. The project will be assessed overall on strengths and weaknesses when implemented in the form of PPP, which is a premise for identifying risks and in-depth assessment of the project at the stage of assessing socio-economic efficiency. Through the quantitative indicators, most PPP transportation project in Vietnam meets the socio-economic efficiency and financial targets to ensure effective and harmonious investment projects of three parties as to the state, investors and society; the criteria that are fully, clearly and transparently evaluated will be the basis for widely attracting interested investors.

Good governance - Insufficient governance may lead to failure in PPP implementation in many countries. Capturing the importance of governance, the Vietnamese government and investor asked project participants tight controlled main factors affecting to project success such as time, cost, and quality of service. By which many projects have effectively completed and operated in recent.

Contract management - Contract management is very important, not only the payment-base but also the basis for solving problems. In order to the project to be fully implemented, the Vietnamese government stipulates that the parties involved in a construction contract should build the contract on the basis of equality and their responsibilities honestly. Thus, in Vietnam when disputes occur, all problems are resolved on the basis of trust and honesty between the investor and the contractor.

Payment structure - The payment process should be specified in detail, with flexibility in terms of contractual workloads and prices of generated jobs. If the two parties cannot reach an agreement at the time of payment, the contract volume and the arising volume value must be temporarily paid according to the contractor’s calculation. This will reduce the financial burden on the contractor and may reduce the bid price because the contractor reduces financial costs.

Improve maintainability - Construction maintenance is a collection of works to ensure and maintain the normal, safe working of the work according to the design's regulations during the operation process. Therefore, maintenance is considered as one of the most important stages to ensure the quality, enhance the durability of the product as well as minimize operating costs. In fact, the early degradation (or especially the unsafe incidents during the exploitation and use process) of construction works is mainly due to the inadequate implementation or protection of the works maintenance. Therefore, the current regulations on the maintenance are more strictly regulated in the construction law as well as in the system of related legal documents, technical regulations and requirements owner and end-users. The investors are responsible for the maintenance of the project, in compliance with the laws and technical regulations on the maintenance of the project.

Technical innovation - In the process of PPP implementation with the participation of foreign and domestic contractors, many technologies and solutions in construction were applied and transferred, whereby have been promoted effectively, serving to construction, operation and maintenance activities of contractors, increasing profits and competitiveness for enterprises.

Weaknesses

This group encompasses three factors, namely commitment of parties, authority sharing, and risk sharing. Those also are challenges for attracting the investors in PPP infrastructure development. In fact, when investors participate in PPP
transportation in Vietnam encounter many risks such as land acquisition, schedule, cost, policies, currency rate, competition, etc. However, inadequate sharing of authorities and responsibilities and unreasonable risk allocation is predicted as the large obstacles for both public and private sectors.

Opportunities
Appropriate toll levels - Most of the PPP projects that have been implemented in the past are subject to preferential tax rates and corporate income tax exemption and reduction for a definite term. This is one of the opportunities for attracting businesses to implement PPP projects. Apart from reducing corporate income tax, PPP projects are also entitled to land rental exemption and reduction policies. However, according to the land law, the exemption and reduction of land use fees and land rent comply with the regulation on investment, so far those regulations have not clearly defined which cases are exempted, which cases are reduced land rent, making the difficulty for localities to determine which cases are exempted, which cases reduce land use fees, land rent for investors in implementing PPP project. Accordingly, the Vietnamese government should continuously maintain the prescribed manner as tax incentives are implemented in accordance with tax laws, to ensure the consistency and transparency of tax incentives. This promotes investors more motivation for long-term investment in the PPP market.

Stable political environment - Stable political environment plays a crucial role in making a good investment environment. According to reference [26], the political risk in Vietnam was medium level compared with many countries belong to the Asia region. Political stability is crucial to the effective mobilization and use of investment capital, especially foreign investment. The political situation is not stable, especially the political institution (with it is a change of laws), the goals and methods of implementing the goals also change. As a result, the benefits of foreign investors are reduced, the confidence of investors is reduced.

Threats
Government support - The investors noticed that one of the concerns of investors is that there is no clear support mechanism from the government, without a separate support fund for investing infrastructure projects via PPP form. State funding for infrastructure projects is conducted under public investment law. There is no specific and independent budget to support infrastructure transportation development. This is a huge challenge for both the public and private sectors in the circumstance of financial limitation.

Legal framework - Until now, the government has not issued a specific law of PPP model. During the implementing process, PPP projects are managed by the association between a lot of various law such as enterprise law, procurement law, public investment law, land law, etc. The guidance documents are regularly edited, changed and supplied. Therefore, many domestic, as well as foreign investors, doubt about the stability of policies, whereas PPP projects contain many risks and long payback period.

Social support - Public investment policy must ensure equity and social security, because public investment not only aims to achieve economic efficiency but also needs to ensure a sustainable development policy, associated with social justice for disadvantaged groups (the poor, ethnic minorities in underdeveloped regions), narrowing the rich-poor gap between urban and rural areas. However, the willingness of society to PPP transportation projects in recent time is not robust due to the toll issue and quality of service.

Financial market - According to the Vietnamese government, the equity ratio of investors in PPP projects should not be lower than 15% of the total investment capital. For projects with a total investment of greater than VND 1,500 billion, the equity ratio is determined on the principle of partial progression. In order to implement the project, apart from the reciprocal capital from the state agencies, the remaining capital of investors will borrow. However, it is difficult for investors to access domestic credit institutions due to long recover the capital, low equity, and failure project. Meanwhile, foreign commercial credit sources always require specific guarantee mechanisms for revenue and foreign exchange risks. Therefore, the financial market has not brought attractive and confidence for investors to invest in the project.

4.2. Proposed strategies for implementing PPP infrastructure projects in Vietnam effectively
An initial matrix will be constructed based on SWOT factors to make effective strategies. The basic principle of designing the strategies has
maintained the strengths, eliminate the weaknesses, promote the opportunities, and minimize the threats [21]. The initial framework is presented as follow:

Table 2. The Initial matrix

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO strategies</td>
<td>WO strategies</td>
<td></td>
</tr>
<tr>
<td>Threats</td>
<td>ST' strategies</td>
<td>WT' strategies</td>
</tr>
</tbody>
</table>

Based on SWOT analysis was mentioned in Table 2 as well as the initial framework in Table 3. The critical strategies for developing the success of PPP projects can be proposed by the round 2 interviews with ten experts who were invited at round 1. The proposed strategies are indicated in Table 3.

Table 3. Proposed strategies for PPP projects

<table>
<thead>
<tr>
<th>SO strategies</th>
<th>WO strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Increasing governmental supervision (SO1)</td>
<td>- Completing tax preferential policies for PPP projects (WO1)</td>
</tr>
<tr>
<td>- Improving management ability of the public sector (SO2)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ST strategies</th>
<th>WT strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Carefully assessing the project feasibility before calling the investment (ST)</td>
<td>- Completing the legal framework of PPP model (WT1)</td>
</tr>
<tr>
<td>- Ensuring the stability of the financial structure (WT2)</td>
<td>- Reasonably allocating risks between the public and private sectors (WT3)</td>
</tr>
</tbody>
</table>

SO1. Increasing governmental supervision

The control and supervision from government agencies and state agencies to the PPP project will contribute to increasing transparency, accountability, creating consensus among the people to implement the project.

In addition, the purpose of control and supervision is to minimize the violation of public interests, optimizing the efficiency of social investment which is the core issues of public investment under the PPP model. Meanwhile, the purpose of private investors is to maximize profits and mitigate risks. Such different investment objectives will easily lead to violation of interests, especially the interests of end-users. Therefore, it is necessary to construct an effective supervision mechanism to control PPP projects, whereby private investors may secure for delivering public services while respecting the investment objectives of public works.

SO2. Improving management ability of the public sector

PPP investment model has been implemented in Vietnam, but so far, many localities have been ambiguous about this model. In order to exploit PPP scheme widely, there are still many issues need to be handled. In addition to soon issue guide document, the personnel preparation is of great significance. In order to successfully implement investment in the PPP form, the government needs to change in awareness and capacity of state management agencies. When applying the PPP investment, state management agencies play a very important role in project preparation. A PPP project must not only ensure socio-economic development but also ensure financial and commercial efficiency. Therefore, improving the capacity of PPP project managers is extremely important to the successful implementation of PPP projects.

ST. Carefully assessing the project feasibility before calling the investment

The government needs to assess the feasibility of the project before calling for private investors. The appraisal process, including careful cost-benefit analysis, helps determine the attractiveness of a project for private investors, control project implementation, and measure the impact of the project to the society, thereby helping parties eliminate undesirable risks during implementation. From the evaluation of the feasibility of the project, it is possible to classify the investment form of the project. For transport infrastructure projects that must be implemented but are not financially viable, the state should invest without fee. For projects with high profitability, the state invests with loans, bonds and collects user fees to recover investment capital. For projects with average profitability should attract private investors for participation.

WO1. Completing tax preferential policies for PPP projects

Government need to further improve tax incentive policies for PPP projects. Accordingly, continuing to maintain the tax preferential policies in
accordance with tax laws in order to ensure the consistency and transparency of tax incentives. This means that PPP projects that are eligible for tax incentives and meet eligibility for tax incentives are entitled to tax incentives like other projects.

In addition, it is advisable to narrow the incentive the enterprise income tax (EIT). By implementing this proposal, it does not reduce the attractiveness of the investment environment, but reduces the revenue loss and reduces opportunities for transfer pricing, tax evasion and tax avoidance of enterprises, including enterprises implementing PPP project.

At the same time, it is necessary to reduce the scope of application and eliminate the form of tax exemption and reduction in a defined period because this form does not encourage enterprises to make long-term investments and easily transfer pricing, tax avoidance and tax evasion. This type of incentive is also considered as the highest cost in reducing state budget revenues. Instead of preferential corporate income tax in the form of tax exemption and reduction for a definite period, the application of tax incentives that can promote more efficient investment, such as tax rebate for reinvestment, tax reduction according to the number of investors continuing to expand investment.

WT1. Completing the legal framework of PPP model

Although having the existing problems, PPP projects have contributed to perfecting the transportation infrastructure system for economic development as well as satisfying the needs of people. However, the government realized that the current legal framework is only at the level of decrees, so it does not guarantee the highest legal framework to control the activities related to PPP scheme. In addition, with large scale PPP projects under a long-term investment process, the investors request a stable PPP’s policy.

The PPP law needs to be soon perfected to achieve ultimate goals, establish a separate legal framework, inherit effective PPP regulations, and handle differences between the current PPP regulations and the other laws, avoid disturbance, and affect the projects that have been implemented. At the same time, the government must ensure the provisions of the law in accordance with international commitments on investment and commercial. PPP law must create guarantee mechanisms, such as the guarantee of currency transfer, revenue risk, etc. By which, PPP's policy creates an advantageous environment for attracting and efficient using of resources of the private sector as well as state resources in PPP projects.

WT2. Ensuring the stability of the financial structure

Due to the high risk of transport infrastructure projects, the government needs to expand the financial support margin to increase the project’s financial viability. Accordingly, in order to build a transport infrastructure project via PPP method, BOT projects need to assure appropriate capital structure, including initial state support capital, equity and debt. Initial state capital participating in PPP projects may reduce the pressure on private capital in the construction phase on which increases the attractiveness of PPP projects. This is part of the Government’s support, this part of the government help investors quickly recover capital, especially for projects with a low level of attractiveness.

WT3. Reasonably allocating risks between the public and private sectors

Implementing PPP projects towards mutual benefit and sharing. Therefore, risks must be appropriately allocated to both public and private sectors based on the ability to control and handle of each party in order to achieve investment efficiency, whereby risks related to the internal project during the design and construction process and assigned to investors for control whilst risks related to legal and political change are allocated the public sector for management and responsibility.

5. CONCLUSION

SWOT analysis is considered as a method of rapidly moving towards an agreed strategy. It can be an effective tool in proposing new strategies, but a strategic development process also needs to be considerably analyzed and tested before adoption. This chapter aims to construct a SWOT matrix from 16 identified CSFs. Then, seven strategies are proposed according to the above model. They include increasing the governmental supervision, improving management ability of public sector, carefully assessing the project feasibility before calling the investment,
completing tax preferential policies for PPP projects, completing the legal framework of PPP model, ensuring the stability of the financial structure, reasonably allocating risks between the public and private sectors. This finding hopes to help the government and investors make a good decision to select strategies for ensuring the success of PPP projects in Vietnam as well as other developing countries.

REFERENCES


