

**Major Stakeholder Different Perspective Concerning  
Factors Contributing to Successful Partnerships in  
Low-cost Apartment Development in Surabaya Metropolitan Area  
in Indonesia**

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**ABSTRACT**

**Purpose** - The objective of this research is to identify critical success factor for public private partnership from major stakeholder perception in low-cost apartment development project in Surabaya Metropolitan Area-East Java province

**Design/methodology/approach** - An empirical questionnaire survey was conducted in Surabaya Metropolitan Area. The survey respondents, both Government and private sector were asked to rate sixteen factors which contribute to delivering successful PPP projects. These variables were then identified and analyzed using factor analysis and discriminant analysis.

**Findings** - The overall results shows that the critical success factors from government perception is good consortium. While the critical success factors from private sector perceptions are Economic condition and policy, Commitment and responsibility and Government support.

**Research limitations/implications** (if applicable)- Further research might examine other schemes of public-private partnerships since the research reported here investigated only 3 schemes (BOT, lease and management contract)

**Originality/value** - These success factors were therefore found to be important for contributing to successful PPP low-cost apartment development projects based on two major stakeholders perceptions in the different PPP schemes.

**Keywords:** Critical Success Factor, Low-cost apartment, Public Private Partnership Surabaya Metropolitan Area

## 1. INTRODUCTION

The Local government's constraints in developing public facilities can be solved by Public Private Partnership (PPP) with the various schemes. One of advantages is PPPs may accelerate infrastructure provision [1]. This enables projects to proceed when the availability of public capital may be constrained. PPPs play an important role in bringing private sector competition to public monopolies in infrastructure development and service provision, and in merging the resources of both public and private sectors to better serve the public needs that otherwise would not be met [2].

PPP has been well practiced in many developing countries in Europe, America and Australia for delivering construction and building projects [3]. In Indonesia, PPP has contributed to the development of a lot of infrastructure projects, such as transportation, tollroad, energy, shipping, oil and gas, and telecommunication [4]. Eventhough PPPs have been used in a wide variety of public needs [5], many empirical studies demonstrated that most PPP-Low Cost Housing projects in developing countries, failed to deliver the low-cost housing. Financial scheme regarding in investment return is the reason why private sector did not interest to involve in this partnership.

There are a lot of uncertainties facing the public private partnership implementation. Poverty, corruption, debt, lack of infrastructure and demand for industrial development are today the main issues affecting the progress of most developing nations around the world [6]. But, respondents still believe that partnering can bring significant benefits to all parties if they all involved in a project strive for its success and consider the critical success factors.

Based on many benefits and risks of PPP for both public and private sector, therefore, it is thus essential for PPP stakeholder to investigate the contributing factors to the successful of PPP. Critical success factor for infrastructure projects may be adopted for low-cost housing or low-cost apartment project. Moreover, this paper is aimed to examine factors contributing to the successful of PPP in Indonesia, focused on low-cost apartment development program in Surabaya Metropolitan Area. This paper focuses on the results obtained from a recent survey of PPP low-cost apartment projects in Surabaya Metropolitan Area concerning the factors that are considered important to the success of PPP project implementation. This study intends to identify the differences in perception concerning the important factor between the public and private sectors. Although the study is focussed on the Indonesia and Surabaya Metropolitan Area specifically, the results are useful for the governments in other region or developing nations that aim to initiate low-cost apartment program.

This paper will be structured as follows. The next section reviews relevant literature concerning critical success factor in adopting PPP. This is followed by a methodology section, which describes the instrument used, sample and data collection and analysis procedures. The results are discussed in the subsequent section, followed by the implications limitations, suggestions for future research and the conclusion in the final section.

## 2. LITERATURE REVIEW

### 2.1. Low-cost Apartment

According to [7], low-cost apartment is the high-rise buildings, which is divided into sections and are functionally structured in horizontal and vertical directions and are units that each can be owned and used separately, equipped with common parts, common objects and common ground. The low-cost apartment are developed as a result of the land scarcity and the expensive housing price. These factors are kind of housing problem which resulting in the housing need.

Actually the high population density will bring into some problems related settlement provision. On the contrary the growth of housing is not equal with the needs due to land scarcity in the downtown and the high land price, which resulted in the growth of illegal housing in the illegal slump area. Therefore, going up is the most effective solution to optimise the available land [8]. The existing low-cost apartments (strata-title housing) were always built by the Ministry of Public Works and the Ministry of Public Housing in local government's asset land [9] in article 17. There are two low cost apartment schemes, ownership and rental schemes. In 2010-2014, Ministry of Public Works developed 250 twin blocks of low-cost apartment. Until 2014, local Government in East Java Province (Province, Municipal and District) has adopted this program by developing 276 twin blocks include 21,644 units.

The government offers low cost rental apartment units which is a not for profit project. Therefore, the government can offer a cheap rent for low income people [8]. According to the preliminary survey, the rental price range for existing low price is IDR 50.000 – 300.000. Some low-cost apartment projects in Surabaya

Metropolitan Area have been adopting public and private partnership. The private sector's roles are land providing, management and investment [10].

## **2.2. Public Private Partnership**

A PPP is a partnership between the public sector and the private sector for the purpose of delivering a project or a service traditionally provided by the public sector [1]. While according to [11], PPP is the arrangement in providing infrastructure provision to extent the national development. Moreover [12] explained a PPP is a long-term contract between the public and private sectors where government pays the private sector to deliver infrastructure and related services on behalf, or in support, of government's broader service responsibilities.

As PPPs have the ability to raise additional finance in an environment of budgetary restrictions, PPPs have some advantages which one of them is to make the best use of private sector operational efficiencies to reduce cost and to increase quality to the public and the ability to speed up infrastructure development [1]. In addition, the major advantage lies in utilising resources from the private sector to alleviate some of the financial burdens of the government [13].

In Indonesia, the legal title for PPP project implementation is Presidential Regulation no 67/2005, which then have been renewed on Presidential Regulation no 13/2010, Presidential Regulation no 56/2011, Presidential Regulation no 66/2013 and Ministry of National Development Planning Regulation no 4/2015 [4]. Eventhough PPPs have been used in a wide variety of public needs [5], only a few private sector who are interested to participate by building partnership in housing project, especially in low-cost apartment program development. Some previous researchers mentioned that government has tried to make the private sector or investors to involve providing low-cost apartment. However, not many investors are interested due to the budget limitation, financial problem and the technical standard requirement [8;14]. In addition, the private sector requires other benefits and more incentives to deal with lower cash flow return from affordable housing tenants. Basically, there is different interest between public and private sector [15], while the private sector wants to optimize profit which might be achieved if government can guarantee income or provide some kind of incentives for investment in affordable housing [16]. On the other hand, in some cases, public sector attempts to provide infrastructure from the non-profit (benefit) view and minimum risk. However, the partnership in this fields is still possible to be adopted more extensively. Certain critical conditions must be satisfied for the PPP model to succeed [17].

## **2.3. Critical Success Factor in Public Private Partnership**

[18] defined The CSFs as "those few key areas of activity in which favorable results are absolutely necessary for a manager to reach his/her goals". There are many factors contributing to successful the PPP implementation. Many researchers have investigated the most critical factors. [18] has examined 18 critical success factors PPP Projects in UK construction industry and then has grouped them into 5 main factors. They were effective procurement, project implementability, government guarantee, favourable economic condition and available financial market.

Meanwhile, [19] has identified some factors and then has classified them into 5 main factors as well. They were stable macroeconomic environment, shared responsibility between public and private sectors, transparent and efficient procurement process, stable political and social environment, and judicious government control. Furthermore [3], studied the CSF PPP implementation comparison between Hong Kong and China. The three critical success factor in Hong Kong were favorable legal framework, and risk sharing, commitment and responsibility of public and private, appropriate risk allocation sector respectively. On the contrary, the three critical success factor in China were favourable legal framework, commitment and responsibility of public and private sector and strong and good private consortium. [20] have also used those factors to investigate the CSF PPP in Malaysia. The most critical factors were good governance, appropriate risk allocation, favourable legal framework, sound economic policy and available financial market. The summary of PPP CSF from several researches is demonstrated in the table 1 below.

A large number of articles have defined and discussed PPP critical success factors (CSFs) extracted from case studies and research surveys ([19; 21; 22]). Most articles derive CSFs that typically center on issues of appropriate risk allocation between contracting parties, strong and good private consortium, favorable legal framework, supportive political and business climates, fair and transparent procurement processes, and sound financial viability.

The PPP in housing projects researches were conducted specifically in Thailand [21] which studied about critical failure factors in low-cost housing project in Thailand. A research in Australia [16] investigated the barrier in entering partnership for affordable housing as well. The most critical factors in

low-cost housing projects in Thailand are policy pressure, procurement process and inappropriate contractors. Whereas the most barrier factors are negative outcomes, power and status differences, organisational conflicts and difficulty in merging values and cultures. [23] investigated critical success factor of PPP in low-cost apartment using mean rank analysis. In this paper, the critical factors of PPP in general, PPP in housing projects and pilot survey are combined.

Table 1. The summary of CSFs for PPP

No	Critical Success Factor	Criteria	References
1	Stable macro-economic condition	Economic	18; 20; 21
2	Favourable legal framework	Legal	18; 20; 21
3	Sound economic policy	Economic	18; 20; 21
4	Available financial market	Economic	18; 20; 21
5	Multi-benefit objectives	Government	18;20
6	Appropriate risk allocation and risk sharing	Implementation	18; 20; 21; 24
7	Commitment and responsibility of public and private sectors	Implementation	18; 20; 21
8	Strong and good private consortium	Consortium	18; 20; 21
9	Good governance	Government	18; 20; 24
10	Shared authority between public and private sectors	Implementation	18; 20; 24
11	Political decision making process	Legal	18; 20; 21; 24
12	Competitive procurement process	Implementation	18; 20; 21
13	Government involvement by providing guarantee	Government	18; 20; 24
14	Thorough and realistic assessment of the cost and benefits	Implementation	18; 20
15	Site availability	Implementation	24; survey
16	Low-income group's ability to pay	Implementation	21; survey

### 3. METHODOLOGY

#### 3.1. Research Instrument

The study adopted variables from the previous research that contribute to describe the critical success factor for Public-Private Partnership (PPP) projects, as shown in Table 1 with some reductions and adjustments to make the factors more realistic. The rationale for adopting similar success factors to those used in prior studies. The survey was conducted during October 2014-February 2015 to low-cost apartment manager in Surabaya Metropolitan Area under the partnership agreement as detailed in table 2. There are 3 low-cost apartments, namely Graha Asri, Warugunung and Siwalan Kerto which each has Lease, Build Operate Transfer (BOT) and Management contract scheme respectively. While the private sectors are the state-owned companies. The questionnaire consists of respondents' personal informations and 16 critical success factors. The respondents were asked to rate the importance of each factor based on a five-point Likert scale from (1) least important to (5) most important.

#### 3.2. Sample and respondent

In all, 35 completed questionnaires were returned out of the 35 distributed. Of these, 18 respondents came from public sector (Surabaya Municipality Government, East Java Province Government) and 17 from the private sector (investor, industrial estate developer, potential investor and management team) as described in table 2. The effective return rate is 100% as questionnaires were compiled by purposive sampling of observation and interview.

Table 2. Distribution of Respondents

Roles of respondents	Frequency	%	Sector	Frequency	%
Ministry of Public Works and Housing	3	8,6	Public	18	51
East Java Province Government	5	14,3			
Surabaya Municipal Government	4	11,4			
Graha Asri Management team	3	8,6			
Waru Gunung Management team	3	8,6			
State-owned companies (operator of Siwalan Kerto low-cost apartment and project sponsor of Waru Gunung low-cost apartment)	9	25,7	Private	17	49
Housing developer	3	8,6			
Industrial estate developer	5	14,3			

### 3.3. Data Analysis

The relative importance of critical success factors were analysed by means of Likert rating scale questions in the survey instrument. The scale are very important (5), important (4), moderate (3), unimportant (2) and very unimportant (1). Statistical analysis undertaken include factor analysis and discriminant analysis. The cronbach alpha reliability for the critical success factors is 0.812 , which means the data collected for both benefit and risk factors are reliable.

## 4. FINDINGS AND DISCUSSION

The findings are presented in the following manner: (1) the results on the critical success factors using the factor analysis result and (2) discriminant analysis result. All section will be followed by discussion.

### 4.1. The Overall Result

This research is the sequence from the former research which studied about critical success factor using mean rank analysis [23]. Based on that paper, the top five most critical factors from overall respondents, in descending order of importance are showed in the table 3 below.

Table 3. Perception of Survey Respondent Concerning the Relative Important of Critical Success Factor in PPP Low-cost Apartment

Public sector	Private sector	Overall
1. Political decision making process	1. Low-income group's ability to pay	1. Political decision making process
2. Site availability	2. Available financial market	2. Commitment and responsibility of public and private sectors
3. Commitment and responsibility of public and private sectors	3. Favorable legal framework	3. Appropriate risk allocation and risk sharing
4. Appropriate risk allocation and risk sharing	4. Appropriate risk allocation and risk sharing	4. Site availability
5. Strong and good private consortium	5. Government involvement by providing guarantee	5. Good governance

Both public and private sector consider appropriate risk allocation and risk sharing as the critical factor to support the successful PPP implementation. This factor is one of the 5 top rank for critical success factor for PPP in low-cost apartment program implementation from both public and private sector, which indicates the important factor for both stakeholder. The risk allocation and risk sharing analysis would consider whether the public sector should accept the high risk cost, share the risks with the public sector, or retain the risk in the public sector [24]. The risk allocation analysis would suggest that certain risks should be retained by the public sector, transferred to the private sector or shared between the two sectors.

## 4.2. The Factor Analysis Result

Factor Analysis was conducted in this research to identify a relatively small number of factors that can be used to represent relationships among a set of many interrelated variables [19]. The critical success variables which have been identified were then evaluated through factor analysis. The correlation matrix showed that all the variables have a significant correlation at the 5% level. The value of the KMO statistic was 0.658, which according to Kaiser is moderate. The loading on each individual factor should exceed or be close to 0.5. The total variance explained by each individual factor is listed in the column named “factor loading.” The percent of the variance and cumulative percent of the variance explained are also shown in Table 4. Principal component analysis was also undertaken, which produced a five-factor solution from sixteen variables as described in table 4.

1. Factor 1: Economic condition and policy,
2. Factor 2: Commitment and responsibility,
3. Factor 3: Government support,
4. Factor 4: Legal framework,
5. Factor 5: Good consortium

Table 4. The Factor Analysis Result

Group	Variables	Percent of variance explained	Factor loading
Group 1	Stable macro-economic condition	35.152%	0.943
	Sound economic policy		0.942
	Low-income group’s ability to pay		0.729
	Thorough and realistic assessment of the cost and benefits		0.959
Group 2	Appropriate risk allocation and risk sharing	25.133%	0.819
	Commitment and responsibility of public and private sectors		0.939
	Shared authority between public and private sectors		0.951
	Political decision making process		0.938
Group 3	Available financial market	12.353%	0.772
	Good governance		0.942
	Government involvement by providing guarantee		0.762
	Site availability		0.809
Group 4	Competitive procurement process	10.926%	0.936
	Favourable legal framework		0.913
Group 5	Multi-benefit objectives	6.370%	0.947
	Strong and good private consortium		0.882

Factor 1 includes macro-economic condition, economic policy, low-income group’s ability to pay, assessment of cost and benefit. All these four variables are associated with economic condition and policy which are essential and needed for the successful PPP implementation.

Factor 2 includes appropriate risk allocation, commitment and responsibility, shared authority and political decision making process. These variables are related to the commitment and responsibility for both public and private sector. As mentioned in the previous sub chapter, it is important that the responsibilities of each party are appropriately defined and shared [19]. The high commitment would influence the partnership output which is indicated by appropriate authority sharing, appropriate risk allocation, and good public decision making process.

The political decision making was ranked second in this group as a necessary factor of the success of PPP in low-cost apartment projects from overall respondents in the rank analysis. The decision making process was significantly effected by political situation. Successful PPP implementation requires a stable political and social environment, which in turn relies on the stability and capability of the host government [13]. The ‘commitment and responsibility of both public and private sectors’ is the second most important CSF, as perceived by the overall respondents. This is consistent with the argument by [19] and [24] who claimed that commitment is one of the fundamental principles in partnership.

There are three CSFs under this underlying group 3. These CSFs are related to the procurement process of PPP projects and they included: available financial market, good governance, government involvement,

and site availability. Since the availability of an efficient and mature financial market with the benefits of low financing costs would be an incentive for private sector taking up PPP projects. Available financial market is also means the good behaviour of the inhabitant to pay the rental fee regularly. Government guarantee is also needed to ensure project economic viability and to allow the private sector cover the project costs and earn reasonable profits and investment returns [19; 24]. In the low-cost apartment project case, government subsidy in the operational and maintenance stage would help the operator of the low-cost apartment as the high rental price could not be applied. Providing land for the low-cost apartment is also essential to accelerate the implementation of low-cost apartment development program. That is why, shared authority and responsibility is very important factor for this PPP project.

Good governance is also essential factor which contributes to the successful PPP implementation. This factor also refer to the consortium’s ability to manage and operate the projects. Furthermore, [17] argued that a well-defined legal framework is necessary for PPP projects to prevent corruption. The corruption problem has been the most failure factor in PPP projects. The good governance also leads to the appropriate risk allocation and risk sharing.

This underlying group 4 which is related to the legal framework consists of two CSFs including: competitive procurement process and favorable legal framework. Since PPP is the long-term arrangement, the adequate legal framework is required. Based on the developed countries’s experiences in adopting PPP, government regulation and guidance related to PPP should be prepared to facilitate the effective application of PPP procurement approach. Those kinds of guidance would also bring to the competitive procurement process, since the government should take a long-term view in seeking the right partner and strong consortium. [19; 24]. In some cases, inconsistent government regulation/policy is unattractive factor for the private sector to involve in the partnership.

Similar to Factor 4, Factor 5 also consists of two CSFs including multi-benefit objectives and good private consortium. The government should ensure that the parties in the private sector consortium are sufficiently competent and financially capable of taking up the projects.

#### 4.3. The Result of Discriminant analysis

The discriminant analysis was also conducted to compare the different perception among public and private sector. The group factors from the factor analysis would be analyzed using discriminant analysis. Two codes represent two stakeholders, they are (1) public sector and (2) private sector). Y1 – Y5 represent 1. Economic condition and policy; Commitment and responsibility ; Government support ; Legal framework and Good consortium, respectively.

**Table 5. Classification Function Coefficients**

	Code	
	1	2
Y1	-1.443	1.527
Y2	-.359	.380
Y4	-.665	.704
Y5	.176	-.186
(Constant)	-1.286	-1.358
Fisher's linear discriminant functions		

According to the Fisher’s linear discriminant functions, the coefficient indicates the relationship or tendency to certain variables. For the public sector, good consortium variable is the most priority in partnership, especially in the low-cost apartment program implementation. While the private sector considers Economic condition and policy, Commitment and responsibility and Government support as the critical factors.

This result in line with the previous analysis in this paper that private sector requires government support in the form of subsidy/guarantee, adequate regulation/policy and commitment which will lead to the favorable economic condition. Moreover, since PPP for low-cost apartment program implementation is risky business which the major source of revenue to the private sector is generated from direct tariffs on low income group inhabitants, there are financial risks that can go beyond the control of the private sector. There

may also be unforeseen risks during the course of project life. To help them, the government may consider some forms of government guarantees, joint investment funding, subsidy or supporting regulation. In contrast, public sector needs to collaborate with good consortium or strong SPV (Special Purpose Vehicle) to ensure the best output for the partnership.

Private sector tend to consider the financial aspect, such as low-income's ability to pay the rental fee. Many researchers [22; 24] have found that project financing is a key factor for private sector investment in public infrastructure projects. The availability of an efficient and mature financial market with the benefits of low financing costs and a diversified range of financial products would be an incentive for private sector taking up PPP projects [19].

## 5. CONCLUSION AND LIMITATIONS

This paper has presented the findings from a questionnaire survey conducted in Surabaya Metropolitan Area concerning to low-cost apartment program implementation. The 16 previously identified CSFs for PPP. The FA technique was used to identify the underlying cluster of CSFs and followed by discriminant analysis. The overall results show that the critical success factors from government perception is good consortium. While the critical success factors from private sector perceptions are Economic condition and policy, Commitment and responsibility and Government support.

This research do not examine other schemes of public-private partnerships since the research reported here investigated only 3 schemes (BOT, lease and management contract) in detail. Therefore this study needs to be improved. First, given the unique characteristics of PPP in low-cost apartment project may explain detail in particular scheme. Second, the factor and discriminant analysis may not be the best method. Hence, future research may want to analyze using more appropriate statistical method. Despite its limitations, this present study offers some useful information for the government and private sector providers concerning the factor contributing the successful implementation of PPP for low-cost apartment program implementation.

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