



## Influence of Project and Affected Local Community Interests Level on Social Conflicts in Indonesian Infrastructure Projects

H. B. Sanggoro\*, S. W. Alisjahbana, D. Mohamad

Civil Engineering Doctoral Program, University of Tarumanagara, Jakarta, Indonesia

### PAPER INFO

#### Paper history:

Received 06 January 2022

Received in revised form 26 February 2022

Accepted 09 March 2022

#### Keywords:

Environmental and Social Framework

Project Interests

Community Interests

PLS-SEM

Infrastructure Project

### ABSTRACT

Poor economic growth due to Covid-19 pandemic in the last two years has resulted in a decline in indicators of public welfare. The construction industry sector also experienced a severe decline in productivity; thus, adjustments had to be made to survive the crisis situation. In addition, environmental problems due to development activities also threaten the lives and incomes of people who depend on natural products. These conditions encourage the escalation of interests that affect infrastructure projects in Indonesia. This study aimed to predict the influence of project and affected local community's interests on infrastructure projects social conflicts. Data were obtained by questionnaire from 68 project managers as respondents and analyzed using PLS-SEM. The findings of this study are that the influence of affected community is more dominant than that of project interests on project social conflicts. This shows the important role of communities in the concept of sustainable development with environmental and social perspectives. The results of this study will be useful in drafting the concept of an integrated and standardized environmental and social safeguard framework. To achieve an appropriate framework, further research is needed to examine the framework concept as a moderation of the relationship between interests and project social conflicts.

doi: 10.5829/ije.2022.35.07a.01

## 1. INTRODUCTION

The health crisis due to the Covid-19 pandemic that has hit the world in the last two years has resulted in a severe economic downturn. This condition is experienced by all countries including Indonesia. Negative growth as a result of Covid-19 pandemic has an impact on the level of community welfare. Statistics Indonesia (BPS) data show an increase in the number of poor people during 2020 and 2021 by 2.75 million compared to Q4/2019. Several other welfare indicators also show stagnation and even worsening due to slowing national and global economic growth as a result of the spread of Covid-19 [1]. This condition also resulted in a decline in construction business activities [2]. BPS recorded a significant slowdown in the construction sector during the pandemic. Thus, many construction industries must carry out performance efficiency which has an impact on

increasing internal interests that have the potential to affect the overall project performance and include the potential to intersect with other interests around the project [3].

In addition to economic and social issues, environmental issues are also a topic of special concern from countries in the world in improving the quality of life and controlling climate change [4]. Meanwhile, in the last few decades, infrastructure development has become one of the causes of land use changes and has resulted in a reduction in the buffer zones [5, 6]. The loss of part of the forest area has an impact on the deterioration of environmental quality which results in disruption of the livelihoods of people who depend on the results of processing natural resources. This serious attention to environmental and climate change issues can be seen in the results of the COP26 Climate Change Summit in

\*Corresponding Author Institutional Email:  
[heru.328201007@stu.untar.ac.id](mailto:heru.328201007@stu.untar.ac.id) (H. B. Sanggoro)

Glasgow, where one of the important points is ending deforestation.

However, the reality of Indonesia's infrastructure needs and quality, which is still below expectations, has resulted in the development program becoming a major dilemma in its implementation. The quality of Indonesia's road infrastructure based on the Global Competitiveness Report on 2019 is ranked 50 out of 141 countries. This condition will need serious attention from the government and project stakeholders in Indonesia. Developments that deal with environmental impacts have the potential to cause conflicts and social disputes in their implementation [7].

This study was developed from the previous research by Sanggoro et al. [8], where conflicts are mostly caused by differences of interests between the project and the affected local communities. So that this study is limited to the aspects and criteria that have been previously disclosed, to measure the influence of the interests that arise from the project itself and the interests that arise due to the social conditions of the affected local communities. This study aimed to predict the effect of the interests of projects' internal environment and affected local communities on social conflicts on infrastructure projects in Indonesia. The interests of local communities in terms of economic, social, environmental, and cultural aspects are based on a statistical index published by the Statistics Indonesia (BPS). Measurement using this statistical data and index will make it easier for project actors to obtain an actual representation of the relevant local community conditions used to measure the level of community interest in project activities. It is hoped that the results of this study will assist project actors in mapping and planning project work programs based on local community empowerment. With proper planning, collaboration between a project and the affected local community can be optimized to achieve project targets.

## 2. LITERATURE REVIEW

### 2. 1. Internal Project Interests

Interests are basically the other form or can be referred to as a collection of demands, expectations, needs, and values expected from each stakeholder [9]. Meanwhile, Zhang and El-Gohary [3], explained that the project objective is one of the values expected by stakeholders. Therefore, project objectives are project interests that will affect the overall project performance. Based on PMBOK [10], project objectives are generally determined by the achievement of costs, quality, time, and customer satisfaction. However, in its development, the achievement of K3 performance is also widely used as a project success parameters.

In addition, construction as a business entity also has its own interest to survive in the face of the times and the

rapidly changing business environment [11]. This business interest is generally influenced by profitability targets, financial capability, annual turnover, and business diversification [12, 13]. Another thing that is considered as a factor of internal interest is the characteristics of the project. In their research, Min et al. [14] argued that project characteristics are factors that contribute to conflict in projects. As a unique activity, projects have different characteristics and require different management [10]. Projects can be distinguished by complexity, scale, scope of the work [15], type of contract [16] and project location [17].

The argument strengthens the research of Al-Sibaie et al. [18], that internal conflict is one of the factors that negatively affects project performance. The strong influence between conflicts and project performance shows that the causal link between the two factors is very high [19-21]. Based on the discussion above, the first hypothesis is structured as follows:

- H1. The higher the project interests, the higher the positive effect on the increase in project social conflicts

### 2. 2. Interests of Affected Communities

The construction industry is one of the business entities whose activities are in direct contact with the community as stakeholders. According to Project Management Institute (PMI) [10], the community is one of the main project stakeholders who exert influence from outside the system (external stakeholder). Therefore, the community will have their own interests that affect the project [22].

In the last decade, sustainable development has continued to be developed as a concept of equitable development. The concept of collaboration between the business aspect and the social responsibility aspect is not only profit-oriented but also for the benefit of people's lives and the environment. Wang et al. [23] mentioned three aspects that are the focus of the concept of sustainable development, namely (a) social, (b) environmental, and (c) economic aspects. These three aspects are also factors that influence the birth of interests or the occurrence of conflicts as studied by Chan and Oppong [9], Silviu and Schipper [24], Xiahou et al. [25], Zhuang et al. [26].

Furthermore, Hartono et al. [27] stated that social diversity is one of the factors that influence the occurrence of conflicts. This is related to Xue and Xiang's opinion [28], that local communities are one of the risk factors that can create conflicts and ultimately lead to social instability. Another factor revealed in the study of Meng et al. [29], Lückmann and Färber [30], is that different cultures have different effects on a project.

Based on the discussion, the importance of the affected community is measured through indexes and data related to the condition of the economic, social, environmental, and cultural aspects of the community

around the project published by the Institution/Ministry and BPS (see Table 1). Referring to the opinion above, then this study proposes the second hypothesis as follows:

- H2. The higher the interests of the affected community, the higher the positive effect on an increase in project social conflicts

**2. 3. Project Social Conflicts**

According to Omenge et al. [31], conflicts can occur due to the interaction of interdependent people who feel incompatible goals. Conflict is also a common and unavoidable consequence of a social interaction in society and in organizations. It is seen as an indication of failed functions [32]. Project performance is influenced by conflicts that occur, including (a) task-related conflict and (b) emotional conflict [27]. Another opinion was conveyed by Wu et al. [19] who stated that conflicts that affect project performance are task conflict, relationship conflict, and process conflict.

Riley and Ellegood [33] also proved in their study that (a) task conflict and (b) relationship conflict have a negative impact on a project. According to them, when working together in the implementation of a project, an individual or an entity has common goals as well as their respective goals through the interests attached to the parties. Periodically, the parties involved will feel tension in their duties or interference from other parties. There may also be feelings of hostility resulting from interpersonal and socioemotional factors. Meanwhile, Prasad and Junni [34] used different variables in measuring conflict, namely cognitive conflict and affective conflict. Sanggoro et al. [8] stated that the conflict between a project and the community can be divided based on the causes, namely (1) task-related conflict, (2) rule-related conflict, (3) affective conflict, and (4) value-related conflict.

The results of the study reveal that conflict is an excess of the interaction of several people or groups in the project. In this study, the parameters of the interests of the affected community as measured by official data and indexes from BPS and Ministries/Government Institutions are new solutions that are offered for ease of measuring conflict opportunities based on the conditions and perceptions of the community around the project. Therefore, the measurement of the level of public interest in the 4 aspects reviewed can be precise and in line with data officially recognized by the government.

**3. MATERIALS AND METHOD**

**3. 1. Data Collection and Sample**

This study focuses on infrastructure projects managed by the Ministry of Public Works and Public Housing (Ministry of PUPR) of the Republic of Indonesia in period of 2019-2021. In each fiscal year, the Ministry of PUPR is the largest development budget manager in Indonesia. The annual increase in the infrastructure development budget has also increased the number of social conflicts due to the projects being undertaken. In addition to the ability of project actors to manage conflict risk, the right strategy is needed to mediate the interests that affect project implementation in Indonesia [8].

This study used the point of view of the project manager as one of the main actors of a project. Determination of the sample was determined randomly representing the territory of Indonesia, namely the western, central, and eastern parts. The collection of the primary data in this study was carried out by using a questionnaire sent by email and post to respondents. Meanwhile, secondary data, namely data on the condition of affected local communities, was obtained from BPS and other ministries/government agencies.

$$\frac{Z^2 p(1-p)}{d^2} \tag{1}$$

where :

- Z<sup>2</sup> = confidence level at 95% (standard value of 1.96)
- p = estimated prevalence or proportions of project area (based on preliminary research of 0.04)
- d<sup>2</sup> = desired precision (0.05)

The research sample was determined by using the Lemeshow formula (Equation (1)), with a standard deviation of 0.04 (based on preliminary research), minimum sample as required is 60 respondents. The research questionnaire was sent to 80 potential respondents representing regions and infrastructure projects in Indonesia. However, only 68 questionnaires were sent back or with a response rate of 85%. However, there were 2 respondents who did not meet the expected expert qualifications so they were not included in the analysis and only used data from 66 respondents. The response rate was good and meet to the minimum sample as required.

**3. 2. Measurement and Instrumentation**

Various influence factors and impact of conflict in the project have been investigated by previous researchers.

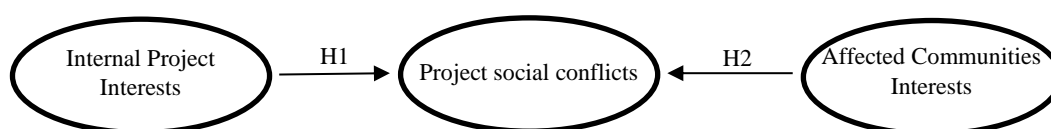


Figure 1. Conceptual model based on research hypotheses

**TABLE 1.** Research variables and measurement criteria

VARIABLE/DIMENSION	DEFINITION
<b>X-1 Internal Project Interests</b>	
X-1.1 PRJ Project Performance	Interests resulting from the performance targets set in project implementation: cost achievement (PRJ1), quality conformity (PRJ2), timeliness (PRJ3), K3 performance achievement (PRJ4), and customer satisfaction (PRJ5)
X-1.2 BUS Company business performance	Interests coming from company's performance targets that are the burden of the project as its business unit as measured by: achievement of profitability (BUS1), financial capability (BUS2), achievement of turnover (BUS3), and business diversification (BUS4)
X-1.3 CHR Project characteristics	The project's interests as a result of project complexity (CHR1), project scale (CHR2), contract type (CHR3), scope of work (CHR4), and project location (CHR5)
X-1.4 PER Personal and team interests	Interests resulting from the level of satisfaction of personnel and teams with respect to the promotion system (PER1), income/salary (PER2), performance benefits and rewards (PER3), job descriptions (PER4), regulations and employment status (PER5), training and competency improvement (PER6), and the conditions of co-workers/teamwork (PER7)
<b>X-2 Interests of Affected Communities</b>	
X-2.1 ECO Economic conditions	Public interests that are caused by economic conditions determined by the unemployment rate (ECO1), the regional minimum wage (ECO2), poverty rate (ECO3), Gini ratio (ECO4), regional economic growth rate (ECO5), and income per capita (ECO6) (BPS)
X-2.2 SOC Social conditions	Public interests that are caused by social conditions determined by the human development index (SOC1), high school net enrollment rate (SOC2), home ownership level (SOC3), disaster risk index (SOC4), food security index (SOC5), vulnerability index politics (SOC6) and number of health facilities (SOC7) (BPS)
X-2.3 ENV Environmental conditions	Community interests that are caused by environmental conditions determined by water quality index (ENV1), air quality index (ENV2), land cover quality index (ENV3), environmental quality index (ENV4), rice field area (ENV5), plantation area (ENV6), dry field area (ENV7), and village forest area (ENV8) (Ministry of Environment and Forestry or Ministry of LHK; Ministry of Agriculture)
X-2.4 CUL Cultural conditions	Community interests that are caused by cultural conditions determined by the percentage of the majority religion (CUL1), majority ethnicity (CUL2), users of the national language in daily conversation (CUL3), and the level of information disclosure (CUL4) (BPS)
<b>Impact of Project Social Conflicts</b>	
	The conflict impacts caused by project activities are as follows.
Y-1.1 PSC1.1	task conflict, determined by the impact on the number of days lost
Y-1.2 PSC1.2	task conflict, determined by the impact on cost overrun due to conflict
Y-2 PSC2	conflict of rules, namely conflict due to the application of company and project rules in completing work
Y-3 PSC3	affective conflict, namely interpersonal conflict, including personal interaction, involving the emotions and sentiments of each party
Y-4 PSC4	conflict values conflict due to the system and values prevailing in the social order as seen from its impact on CSR costs

However, the use of indexes as parameters in determining the level of interest that affects social conflict in projects, generally lack empirical studies, especially in Indonesia. Based on the literature reviews and previous research [8], the conflict of interest in the project was rearranged in this study to measure the effects of the interest condition based on the socio-community indexes around the project. The theoretical model was developed using factors of interest and conflict that have been resulted in the previous study by the Soft System Methodology.

Based on the conceptual model (Figure 1) and discussion above, this study was generated from the

project interests as a variable and affected community interests as the other variable, each of which is compiled by measuring indicators (Table 1). A Likert scale of 1 to 5 was used to measure the indicators with criteria of interests from "Very Low" to "Very High". Variables X-1 and Y represent the level of project interests and the level of impact caused by project social conflicts which were obtained based on the responses to the proposed questionnaire. While X-2 is an illustration of the level of interest of the affected community obtained from data for each project area from official government ministries/agencies of the Republic of Indonesia, such as BPS-Statistics Indonesia, Ministry of Environment and

Forestry, Ministry of Agriculture, National Board for Disaster Management (BNPB), and The General Election Supervisory Agency (BAWASLU).

**3. 3. Method of Data Analysis** A research model (Figure 1) was developed with the aim of predicting the impact of project social conflict (Y) from the influence of project interests (X1.1 - X1.4) and affected community interests (X2.1 - X2.4). Referring to Hair et al. [35], PLS-SEM is a statistical analysis technique based on variance and is appropriate for descriptive and prediction-oriented models. Since the number of samples used in this study is 68 respondents, it means it is more appropriate to use PLS-SEM as the method of analysis. Chin et al. [36] stated that 30-100 samples is the minimum required by PLS-SEM to obtain consistency in model analysis. Furthermore, PLS-SEM is more consistent in predicting estimates without requiring the assumption of a normal distribution.

Based on the above theory, PLS-SEM is an analytical method that is in accordance with the research objective to predict the effect of interests on the impact of project social conflicts. SmartPls 3 was used in the estimation and measurement of the research model.

## 4. RESULTS AND DISCUSSION

**4. 1. Respondent Demography** Respondents in this study were project managers throughout Indonesia who were currently or had worked on infrastructure projects under the Ministry of PUPR RI. The demographics of the 68 participating respondents can be seen in Table 2.

**TABLE 2.** Respondent demography

RESPONDENT CHARACTERISTIC	FREQ.	%
<b>Experience as Project Manager</b>		
5 - 10 years	14	21.21%
11 - 15 years	11	16.67%
16 - 20 years	6	9.09%
≥ 20 years	35	53.03%
<b>Education degree</b>		
Bachelor in Civil Engineer	54	81.82%
Master	12	18.18%
<b>Type of Project</b>		
Road and Bridge	38	57.58%
Building	9	13.64%
Dam and Water Resource	19	28.79%

**4. 2. PLS-SEM Model Evaluation** The estimation and measurement process with SmartPls was carried out in two stages:

- 1). assessment of the measurement model (outer model)
- 2). assessment of the structural model or (inner model).

In assessing the measurement model, several criteria were used: internal consistency (Cronbach's alpha, composite reliability, rho-A), convergent validity (indicator reliability, AVE), and discriminant validity (cross loading and Fornell-Larker Criterion). Meanwhile, in testing the structural model, the coefficient of determination (R-Square), predictive relevance (Q-square), multicollinearity test (VIF), and hypothesis testing (T-statistical significance and p-value) were used as criteria [37].

### 4. 3. Assessing of the Measurement Model (Outer Model)

The first test of this study model was to evaluate the measurement model or outer model. In the model (Figure 1), it is stated that all dimensions have reflective indicators, so the test was conducted to look at the loading value. Smartpls requires loading values > 0.7 and AVE > 0.5. However, Hair et al. [35] stated that indicators with a loading factor of less than 0.4 should be eliminated, and indicators with a loading factor of 0.4 – 0.7 can be deleted if it is intended to increase the value of AVE, composite reliability (CR), and Cronbach's Alpha. With these considerations in mind, this study eliminated indicators that have a loading factor > 0.5.

Cronbach's Alpha (CA) and composite reliability (CR) were used to measure internal consistency reliability. This criterion adhered to the opinion of Hair et al. [35] where the model is declared reliable if it has Cronbach's Alpha and composite reliability values > 0.7. The loading factor value of the dimensions/variables that have CA and CR values below 0.7 must be reviewed again on the indicator. Meanwhile, discriminant validity was determined by the correlation value of each indicator to its dimensions/variables which must be higher than the correlations with other dimensions/variables. The discriminant validity test can be seen in the cross loading value or the Fornell-Larcker Criterion.

The VIF value was used to see the symptoms of multicollinearity in the model. According to Hair et al. [38], multicollinearity can be predicted if the VIF value is > 5, but the threshold commonly used for the 0.10 tolerance value is the VIF value of 10. According to the opinion above, in this research model, the VIF criteria > 10 was used to indicate severe multicollinearity symptoms. Indicators that were suspected of not meeting the validity and reliability criteria above must be removed at this stage. After fulfilling the validity testing phase, the results are shown in Table 3.

### 4. 4. Assessing of the Structural Model (Inner Model)

Testing of the structural model (inner

model) began by looking at the value of the coefficient of determination (R-square). The coefficient of determination (R2) is used to determine the magnitude of the ability of endogenous variables to explain the diversity of exogenous variables [39]. The R-square value generated from the estimation of this model (Figure 3) was 0.544, which means that 54.4% of the Project Social Conflict variable (Y) can be explained by the independent variables used. Meanwhile, the 45.6% (1-0.544) is explained by other factors that were not included in this research model. R-square was also used to calculate the predictive relevance estimate (Q-square). The value of Q2 indicates how well the observed values were generated by the model and also the estimated parameters. Q2 value greater than 0 (zero) indicates that the model is considered good enough. To determine Q-square the following formula was used.

$$Q^2 = \sqrt{R^2 \times AVE} \tag{2}$$

$$Q^2 = \sqrt{0.544 \times 0.830} = 0.672$$

The analysis at this stage was continued by determining the significant level using t-statistics and p-values. To see the direction of the relationship between the independent variables on the dependent variable, the path coefficient (Table 4) was used.

**TABLE 3.** Measurement model (outer model) assessment result

FACTOR	LF	CA	CR	AVE	VIF
<b>X1.1 PRJ</b>		0.918	0.928	0.721	6.031
X1.1.1 PRJ1	0.832				
X1.1.2 PRJ2	0.892				
X1.1.3 PRJ3	0.844				
X1.1.4 PRJ4	0.949				
X1.1.5 PRJ5	0.710				
<b>X1.2 BUS</b>		0.913	0.945	0.852	7.813
X1.2.1 BUS1	0.908				
X1.2.2 BUS2	0.915				
X1.2.3 BUS3	0.945				
<b>X1.3 CHR</b>		0.829	0.898	0.746	4.878
X1.3.1 CHR1	0.804				
X1.3.4 CHR4	0.858				
X1.3.5 CHR5	0.924				
<b>X1.4 PER</b>		0.964	0.971	0.825	2.559
X1.4.1 PER1	0.917				
X1.4.2 PER2	0.821				
X1.4.3 PER3	0.928				
X1.4.4 PER4	0.879				
X1.4.5 PER5	0.925				

X1.4.6 PER6	0.962				
X1.4.7 PER7	0.919				
<b>X2.1 ECO</b>		1.000	1.000	1.000	1.342
X2.1.1 ECO1	1.000				
<b>X2.2 SOC</b>		1.000	1.000	1.000	1.675
X2.2.3 SOC3	1.000				
<b>X2.3 ENV</b>		1.000	1.000	1.000	1.316
X2.3.6 ENV6	1.000				
<b>X2.4 CUL</b>		0.845	0.928	0.866	1.098
X2.4.2 CUL2	0.934				
X2.4.3 CUL3	0.920				
<b>Y - PSC</b>		0.948	0.961	0.830	
Y-1.1 PSC1.1	0.845				
Y-1.2 PSC1.2	0.957				
Y-2 PSC2	0.894				
Y-3 PSC3	0.906				
Y-4 PSC4	0.949				

Notes: LF = loading factor; CA = Cronbach's alpha; CR = composite reliability; AVE = average variance extracted; VIF = variance inflation factor

**4. 5. Hypotheses and Discussion**

The results in this study showed different findings from several previous studies. Significant and positive influence of project performance [19-21], the company's business interests [40, 41], and the interests of personnel and teams [18, 40] as variables are not supported based on this research model. However, the relationship between interests and the characteristics of the project as variables can be proven to have a relationship and influence on the impact of project social conflicts [14, 16].

In the category of the interests of affected communities, it showed the opposite result. Effect of economic conditions, environmental conditions [9, 24-26], and cultural conditions [28-30] showed a positive direction and significant relationship to the impact project social conflicts. Meanwhile, the social conditions of affected communities proved different from the study of Chan and Oppong [9], Silvius and Schipper [24], Xiahou et al. [25], and Zhuang et al. [26] who stated that there is a significant relationship to conflict in the project.

The biggest influence on social conflict is given by the variable interest characteristics of the project with a contribution of 0.435 and then followed by cultural conditions of 0.327, environmental conditions of 0.312, and economic conditions of 0.286. The magnitude of the influence of the variables of interests on the impact of project social conflicts is expressed by an R-square of 0.544 (54.4%) with an error factor of 45.6%. The ability of the variables to relevantly predict the project's social conflict variables is also quite high, with a Q-square value of 0.672 (67.2%).

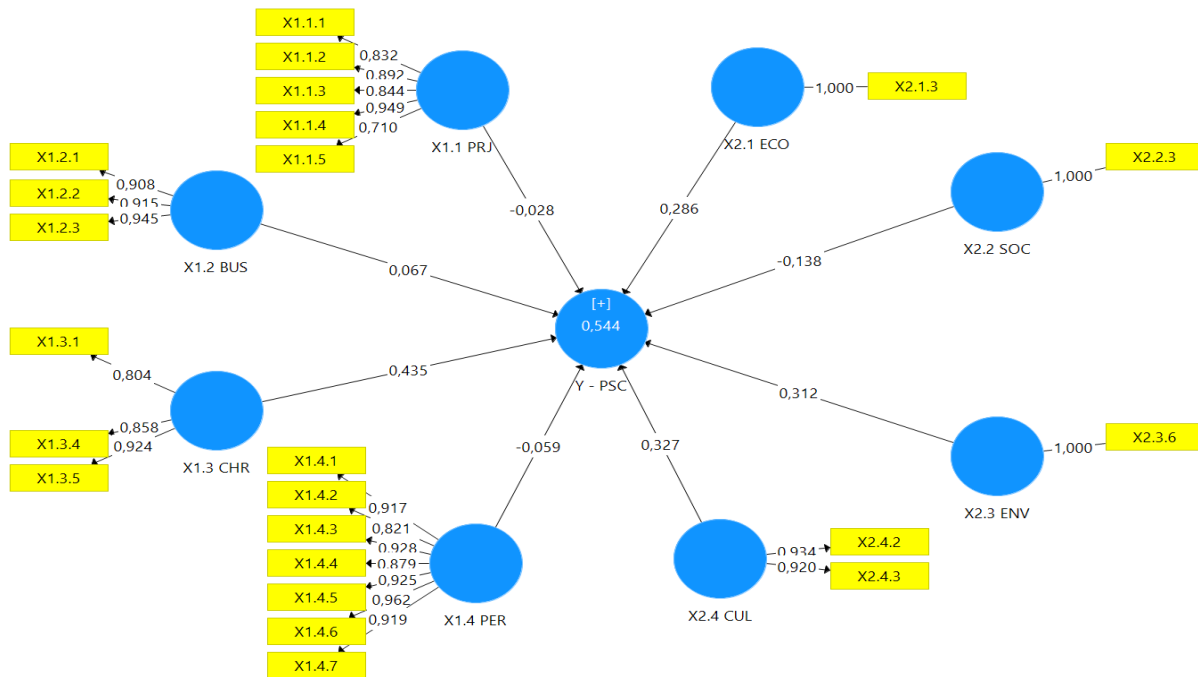


Figure 3. Path coefficient dan R-square model

TABLE 4. Structural model (inner model) assessment result

STRUCTURAL PATH	PATH COEF.	T-STAT.	P-VALUES	SIGN. LVL.	CONCLUSION
X1.1 PRJ → Y - PSC	-0.028	0.136	0.892	n.s	H.1a. not supported
X1.2 BUS → Y - PSC	0.067	0.323	0.747	n.s	H.1b. not supported
X1.3 CHR → Y - PSC	0.435	2.552	0.011	Significant	H1c. supported
X1.4 PER → Y - PSC	-0.059	0.441	0.659	n.s	H.1d. not supported
X2.1 ECO → Y - PSC	0.286	3.176	0.002	Significant	H.2a. supported
X2.2 SOC → Y - PSC	-0.138	1.428	0.154	n.s	H.2b. not supported
X2.3 ENV → Y - PSC	0.312	3.166	0.002	Significant	H.2c. supported
X2.4 CUL → Y - PSC	0.327	3.692	0.000	Significant	H.2d. supported

Note: Notes: n.s = not significant; t-stat. ≥ 1.96 or p-value ≤ 0.05 significant

The results of this study showed that the interests of affected communities dominate the impact on project social conflicts. The basic difference between this study and previous research is that in this study, internal (projects) and external (communities) interests are jointly developed to be tested on project social conflicts. In previous studies, the model was arranged partially between internal and external interests. However, the differences in the results of this study provide new information, that communities as social entities in the projects have a great influence on project conflict conditions. This finding corroborates Siregar and Utomo's study [42] that for the environmental and social safeguard framework, as an effort to minimize

development conflicts, communities must be the subject. The absence of an integrated and standardized environmental and social framework in Indonesia is also an important note in the effort to realize sustainable development with environmental and social perspectives [8]. As generally, this model can be used in all industrial activities that are project-based which have a limited time life cycle, and potentially to intersect with community social activities. However, all the measurement parameters should meet the measurement intervals that were used in this study.

The relationships between the interests of project performance, business performance, and personnel and teams which are not significant to the impact of project

social conflicts indicates the level of project and company flexibility to make adjustments to their policies. Projects and construction companies as business entities will consider a smaller impact on the concept and objectives of the project and business compared to rigidity in implementing policies. Meanwhile, project characteristics are variables whose measurement criteria are difficult to change and adjust. Therefore, the interests that arise from the characteristics of the project tend to be rigid and have the potential to create conflicts in the implementation. This is corroborated by indicators that shape the importance of project characteristics, namely project complexity, scope of work, and location. The all three have definite technical and managerial risks to the project based on the level of difficulty.

Meanwhile, the relationship with the interests of affected communities shows the importance of economic, environmental, and cultural aspects for communities. Fluctuating economic conditions as a result of the Covid-19 pandemic have contributed to communities' interests in projects to earn better income. Local communities' interests in environmental aspects show a high level of dependence on natural resources. Cultural aspects are also proven to still have a strong influence on the lives of local people. This proves that culture and customs still dominates social forces in people's lives in Indonesia [43]. What is interesting in the findings of this study is that there is no evidence of a significant influence of social conditions on project social conflicts. Measurement of social conditions through indicators of the level of home ownership that is not significant explains that for local people, home ownership does not determine the status and level of social importance. In the life of local communities, a family house that has been occupied for generations by several generations is actually a matter of pride. Several others built their houses on land inherited from their ancestors as proof of appreciation for the efforts of their ancestors in obtaining family assets. Thus, in the context of this social interest, the indicators used to measure it cannot be proven to have a significant effect on project social conflicts.

## 5. CONCLUSION

The findings of this study provide a detailed description of the conditions of interests in the implementation of infrastructure projects in Indonesia by involving project and affected community interests. Social conflicts in the project are more dominantly influenced by the interests of the affected communities compared to the interests of the internal project. This is proven by the significant influence of economic, environmental, and cultural aspects on the project's social conflicts. This influence places the social conditions of the affected communities

as essential in determining the size of the potential conflict that can occur in project implementation. It also proves that the EIA concept in Indonesia which places the community as an object of protection needs to be reviewed. Meanwhile, project characteristics are a factor of project internal interest that has a significant effect on project social conflicts. Internal interests in aspects of project performance, company business performance, and the interests of personnel and teams have not been proven to have a significant effect on creating social conflicts in the project. This shows the project's ability to adjust the achievement targets to be more realistic to the situation and conditions. The project interprets that failure to manage conflict will have a worse impact on the business performance of the project and its corporation than staying on business interests..

Based on the results of this research, the project is expected to be able to maximize information on the condition of the local community around the project in its implementation. Therefore, it can determine the strategy and concept of empowerment and community involvement in the project appropriately. Meanwhile, the EIA concept which still places the role of the affected community as an object of protection must be immediately transformed by placing the community as a subject who is actively involved in the development process and protection against social and environmental impacts. To achieve an appropriate safeguard framework, further research is needed to examine the framework concept as a moderation of the relationship between interests and project social conflicts. Thus, the conceptual framework proposed as an effort to manage and control conflicts can be tested for its ability and reliability in accommodating the interests of both parties. The concept of this framework is then referred to as "compromise of interests" or "middle way interests" in managing project social conflicts with dignity.

## 6. REFERENCES

1. Pereirinha, J.A.C. and Pereira, E., "Social resilience and welfare systems under covid-19: A european comparative perspective", *Global Social Policy*, Vol. 21, No. 3, (2021), 569-594, <https://doi.org/10.1177/14680181211012946>
2. Zamani, S.H., Rahman, R., Fauzi, M. and Yusof, L., "Effect of covid-19 on building construction projects: Impact and response mechanisms", in IOP Conference Series: Earth and Environmental Science, IOP Publishing. Vol. 682, No. 1, (2021), 012049.
3. Zhang, L. and El-Gohary, N.M., "Discovering stakeholder values for axiology-based value analysis of building projects", *Journal of Construction Engineering and Management*, Vol. 142, No. 4, (2016), 04015095, [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001004](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001004)
4. File, D.J. and Derbile, E.K., "Sunshine, temperature and wind: Community risk assessment of climate change, indigenous knowledge and climate change adaptation planning in ghana", *International Journal of Climate Change Strategies and*



- Management**, (2020), <https://doi.org/10.1108/IJCCSM-04-2019-0023>
5. Austin, K.G., Schwantes, A., Gu, Y. and Kasibhatla, P.S., "What causes deforestation in indonesia?", *Environmental Research Letters*, Vol. 14, No. 2, (2019), 024007, <https://doi.org/10.1088/1748-9326/aaf6db>
  6. Alamgir, M., Campbell, M.J., Sloan, S., Suhardiman, A., Supriatna, J. and Laurance, W.F., "High-risk infrastructure projects pose imminent threats to forests in indonesian borneo", *Scientific Reports*, Vol. 9, No. 1, (2019), 1-10, <https://doi.org/10.1038/s41598-018-36594-8>
  7. Yu, J. and Leung, M.-y., "Structural stakeholder model in public engagement for construction development projects", *Journal of Construction Engineering and Management*, Vol. 144, No. 6, (2018), 04018046, [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001462](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001462)
  8. Sanggoro, H.B., Alisjahbana, S.W. and Mohamad, D., "Soft system methodology: Project vs local community interests in project social conflict", <https://doi.org/10.5829/ije.2021.34.09c.08>
  9. Chan, A.P. and Oppong, G.D., "Managing the expectations of external stakeholders in construction projects", *Engineering, Construction and Architectural Management*, (2017), <https://doi.org/10.1108/ECAM-07-2016-0159>
  10. Verzuh, E. and Association, A.P., "A guide to the project management body of knowledge: Pmbok guide", (2021).
  11. Ho, P.H., "Analysis of competitive environments, business strategies, and performance in hong kong's construction industry", *Journal of Management in Engineering*, Vol. 32, No. 2, (2016), 04015044, [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000399](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000399)
  12. Jang, Y., Jeong, I.-B., Cho, Y.K. and Ahn, Y., "Predicting business failure of construction contractors using long short-term memory recurrent neural network", *Journal of Construction Engineering and Management*, Vol. 145, No. 11, (2019), 04019067, [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001709](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001709)
  13. Kim, D.G. and Choi, S.O., "Impact of construction it technology convergence innovation on business performance", *Sustainability*, Vol. 10, No. 11, (2018), 3972, <https://doi.org/10.3390/su10113972>
  14. Min, J.H., Jang, W., Han, S.H., Kim, D. and Kwak, Y.H., "How conflict occurs and what causes conflict: Conflict analysis framework for public infrastructure projects", *Journal of Management in Engineering*, Vol. 34, No. 4, (2018), 04018019, doi. [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000625](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000625)
  15. Liu, B., Huo, T., Liang, Y., Sun, Y. and Hu, X., "Key factors of project characteristics affecting project delivery system decision making in the chinese construction industry: Case study using chinese data based on rough set theory", *Journal of Professional Issues in Engineering Education and Practice*, Vol. 142, No. 4, (2016), 05016003, [https://doi.org/10.1061/\(ASCE\)EI.1943-5541.0000278](https://doi.org/10.1061/(ASCE)EI.1943-5541.0000278)
  16. Vaux, J.S. and Kirk, W.M., "Relationship conflict in construction management: Performance and productivity problem", *Journal of Construction Engineering and Management*, Vol. 144, No. 6, (2018), 04018032, [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001478](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001478)
  17. Dao, B., Kermanshachi, S., Shane, J., Anderson, S. and Hare, E., "Exploring and assessing project complexity", *Journal of Construction Engineering and Management*, Vol. 143, No. 5, (2017), 04016126, [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001275](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001275)
  18. Al-Sibaie, E.Z., Alashwal, A.M., Abdul-Rahman, H. and Zolkafli, U.K., "Determining the relationship between conflict factors and performance of international construction projects", *Engineering, Construction and Architectural Management*, (2014), <https://doi.org/10.1108/ECAM-03-2014-0034>
  19. Wu, G., Zhao, X. and Zuo, J., "Effects of inter-organizational conflicts on construction project added value in china", *International Journal of Conflict Management*, (2017), <https://doi.org/10.1108/IJCM-03-2017-0025>
  20. Wu, G., Zhao, X. and Zuo, J., "Relationship between project's added value and the trust-conflict interaction among project teams", *Journal of Management in Engineering*, Vol. 33, No. 4, (2017), 04017011, [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000525](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000525)
  21. Chen, Y.Q., Zhang, Y.B. and Zhang, S.J., "Impacts of different types of owner-contractor conflict on cost performance in construction projects", *Journal of Construction Engineering and Management*, Vol. 140, No. 6, (2014), 04014017, [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0000852](https://doi.org/10.1061/(ASCE)CO.1943-7862.0000852)
  22. Archer, P., "Towards a theory of interest claims in constructing social problems", *Qualitative Sociology Review*, Vol. 11, No. 2, (2015), 46-60.
  23. Wang, H., Zhang, X. and Lu, W., "Improving social sustainability in construction: Conceptual framework based on social network analysis", *Journal of Management in Engineering*, Vol. 34, No. 6, (2018), 05018012, [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000607](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000607)
  24. Silvius, G. and Schipper, R., "Planning project stakeholder engagement from a sustainable development perspective", *Administrative Sciences*, Vol. 9, No. 2, (2019), 46, <https://doi.org/10.3390/admsci9020046>
  25. Xiahou, X., Tang, Y., Yuan, J., Chang, T., Liu, P. and Li, Q., "Evaluating social performance of construction projects: An empirical study", *Sustainability*, Vol. 10, No. 7, (2018), 2329, <https://doi.org/10.3390/su10072329>
  26. Zhuang, T., Qian, Q.K., Visscher, H.J. and Elsinga, M.G., "Stakeholders' expectations in urban renewal projects in china: A key step towards sustainability", *Sustainability*, Vol. 9, No. 9, (2017), 1640, <https://doi.org/10.3390/su9091640>
  27. Hartono, B., Dzulfikar, L. and Damayanti, R., "Impact of team diversity and conflict on project performance in indonesian start-ups", *Journal of Industrial Engineering and Management*, Vol. 13, No. 1, (2020), 155-178, <https://doi.org/10.3926/jiem.3037>
  28. Xue, Y. and Xiang, P., "The social risk of high-speed rail projects in china: A bayesian network analysis", *Sustainability*, Vol. 12, No. 5, (2020), 2087, <https://doi.org/10.3390/su12052087>
  29. Meng, J., Yan, J. and Xue, B., "Exploring relationships between national culture and infrastructure sustainability using qca", *Journal of Construction Engineering and Management*, Vol. 144, No. 9, (2018), 04018082, [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001463](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001463)
  30. Lückmann, P. and Färber, K., "The impact of cultural differences on project stakeholder engagement: A review of case study research in international project management", *Procedia Computer Science*, Vol. 100, (2016), 85-94, <https://doi.org/https://doi.org/10.1016/j.procs.2016.09.127>
  31. Omenga, P.M., Obwoyere, G.O., Eshiamwata, G.W., Makindi, S.M. and Nathwani, J., "Environmental and social impact assessment procedural steps that underpin conflict identification: Reference to renewable energy resource development in kenya", *International Journal of Energy Production and Management*, Vol. 5, No. 2, (2020), 157-174, <https://doi.org/10.2495/EQ-V5-N2-157-174>
  32. Khalid, S. and Fatima, I., "Conflict types and conflict management styles in public and private hospitals", *PAFMJ*, Vol. 66, No. 1, (2016), 122-126.
  33. Riley, J.M. and Ellegood, W.A., "Relationship conflict, task conflict and teams' transactive memory systems", *International*

- Journal of Educational Management*, (2019), <https://doi.org/10.1108/IJEM-01-2019-0003>
34. Prasad, B. and Junni, P., "Understanding top management team conflict, environmental uncertainty and firm innovativeness: Empirical evidence from india", *International Journal of Conflict Management*, (2017), <https://doi.org/10.1108/IJCM-02-2016-0006>
  35. Hair Jr, J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, M., "A primer on partial least squares structural equation modeling (pls-sem), Sage publications, (2021).
  36. Chin, W.W., How to write up and report pls analyses, in *Handbook of partial least squares*. 2010, Springer.655-690.
  37. Garson, G.D., *Partial least squares. Regression and structural equation models*. 2016, Statistical Publishing Associates.
  38. Hair, J., Black, W., Babin, B., Anderson, R. and Tatham, R., "Multivariate data analysis: A global perspective (6th editio)", *Upper Saddle Rider: Pearson Education*, (2010).
  39. Ali, I., Musawir, A.U. and Ali, M., "Impact of knowledge sharing and absorptive capacity on project performance: The moderating role of social processes", *Journal of Knowledge Management*, (2018), <https://doi.org/10.1108/JKM-10-2016-0449>
  40. Panahi, B., Moezzi, E., Preece, C.N. and Zakaria, W.N.W., "Value conflicts and organizational commitment of internal construction stakeholders", *Engineering, Construction and Architectural Management*, (2017), <https://doi.org/10.1108/ECAM-01-2016-0006>
  41. Wang, Y. and Xiang, P., "Investigate the conduction path of stakeholder conflict of urban regeneration sustainability in china: The application of social-based solutions", *Sustainability*, Vol. 11, No. 19, (2019), 5271, <https://doi.org/10.3390/su11195271>
  42. Siregar, M. and Utomo, S., "Environmental impact assessment as a regulation and equator principles as an initiative", in *IOP Conference Series: Earth and Environmental Science*, IOP Publishing. Vol. 399, No. 1, (2019), 012081.
  43. Sanggoro, H.B., Widyaningsih, N. and Bintoro, B.P., "Analysis influence factors of domination, competency and interpersonal skill in the stakeholder interaction to infrastructure project success", *International Journal of Engineering & Technology*, Vol. 9, No. 1, (2020), 164-174, <https://doi.org/10.14419/ijet.v9i1.30153>

---

### Persian Abstract

---

#### چکیده

رشد اقتصادی ضعیف به دلیل همه‌گیری کووید-۱۹ در دو سال گذشته منجر به کاهش شاخص‌های رفاه عمومی شده است. بخش صنعت ساختمان نیز کاهش شدید بهره‌وری را تجربه کرد. بنابراین، برای زنده ماندن در شرایط بحرانی باید تنظیماتی انجام می‌شود. علاوه بر این، مشکلات زیست محیطی ناشی از فعالیت‌های عمرانی نیز زندگی و درآمد افراد وابسته به محصولات طبیعی را تهدید می‌کند. این شرایط باعث افزایش منافع می‌شود که بر پروژه‌های زیرساختی در اندونزی تأثیر می‌گذارد. این مطالعه با هدف پیش‌بینی تأثیر پروژه و منافع جامعه محلی تأثیرگذار بر تعارضات اجتماعی پروژه‌های زیربنایی انجام شد. داده‌ها با استفاده از پرسشنامه از ۶۸ مدیر پروژه به عنوان پاسخگو به دست آمد و با استفاده از PLS-SEM تجزیه و تحلیل شد. یافته‌های این مطالعه حاکی از آن است که تأثیر جامعه متاثر از منافع پروژه بر تعارضات اجتماعی پروژه بیشتر است. این امر نشان‌دهنده نقش مهم جوامع در مفهوم توسعه پایدار با دیدگاه‌های زیست محیطی و اجتماعی است. نتایج این مطالعه در پیش‌نویس مفهوم چارچوب حفاظت محیطی و اجتماعی یکپارچه و استاندارد شده مفید خواهد بود. برای دستیابی به یک چارچوب مناسب، تحقیقات بیشتری برای بررسی مفهوم چارچوب به عنوان تعدیل رابطه بین منافع و تضادهای اجتماعی پروژه مورد نیاز است.

---