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Protected Values and Their Influences on Perceived Procedural Fairness in Highway Project: A Field Survey in South Sulawesi, Indonesia

Setiawan I[1] and Hatori T[2]*

[1]Department of Civil and Environmental Engineering, Ehime University, Ehime, Japan
[2]Department of Industrial Engineering, Faculty of Engineering, Hasanuddin University, Jl Tamalanrea KM.10 Makassar, 90245, Indonesia

Abstract

Values that are protected against trade-offs, which are known as protected values, can render policy acceptance impossible. The main purpose of this paper was to examine the impacts of residents' protected values on their perceptions of procedural fairness, which is an important determinant of policy acceptance. A questionnaire survey was completed by 300 residents of three cities in South Sulawesi, Indonesia, that had been affected by a flyover construction project. The results showed that some respondents had protected values based on religious and environmental considerations. These values were also shown to detract from perceptions of procedural fairness. Furthermore, trust in government mitigated this derogation effect.

Keywords: Protected value; Public acceptance; Procedural fairness; Trust; Flyover construction project; Value protection model

Introduction

Public acceptance is key to the successful implementation of regional policies [1]. If the public broadly accepts a project proposal, governmental authority is able to smoothly implement it. Gaining support from residents may also help authorities raise funds for the project [2]. On the other hand, low levels of acceptance among residents may create obstacles to the progress of a project despite the best efforts to implement it [3]. As a result, a project may not be implemented in the face of strong public opposition.

Resident responses to government project proposals depend on perceptions of its benefits and costs and how each resident makes trade-offs between them [4]. Regional projects are commonly constrained by various trade-offs between incompatible values, as satisfying one value may entail sacrificing another. For example, highway projects can improve regional accessibility and reduce travel time, but they can also lead to changes in the local environment. Moreover, some projects displace neighbourhood residents. As long as residents' responses to proposed projects either directly or indirectly affect regional decision making regarding the project, residents need to understand such trade-offs to make well-reasoned judgments about the projects.

However, some people with strong values think that they should not have to make trade-offs. Many of these values concern human life, natural resources, and human rights. Baron and Spranca [5] called values that are protected against trade-offs with other values *protected values*. Using economic terminology, protected values are values with an infinite marginal rate of substitution. People with protected values think that these values should not be sacrificed for anything, regardless of the benefits. In the decision-making process for regional projects, such a refusal to make trade-offs by some stakeholders creates problems for government agencies, which try to allocate resources after considering the various values of all stakeholders. For instance, one stakeholder could dominate a decision by expressing an absolute value, or stakeholders with conflicting protected values could make finalising a decision impossible [6]. Taken together, residents' denial of trade-offs due to loyalty to their protected values may challenge authorities' attempts to make reasoned judgments and garner public acceptance of decisions in diverse societies.

Although residents' denial of trade-offs due to loyalty to their protected values is one of the most significant issues regarding public acceptance, few studies have dealt with this issue in the context of regional public policy making. Furthermore, previous studies by Baron and his colleagues have explored protected values using hypothetical scenarios [7]. Little is known about whether people have protected values when it comes to actual projects, and, if they do, how such protected values affect acceptance of the projects.

Our study addressed the problematic characteristics of protected values that impede public acceptance and examined how to mitigate these issues. We examined a highway construction project in the South Sulawesi province of Indonesia to explore the nature and prevalence of protected values relevant to the project. This study attempted to demonstrate the effects of protected values on perceptions of procedural fairness, which is widely known to be an important determinant of public acceptance in various policy domains, including transportation policies [8-10]. We predicted and examined a detrimental effect of protected values based on the value protection model of justice [11]. Finally, the study explored the role of trust in reducing the detrimental effects of protected values.

Theory

Properties of protected values

Baron and Spranca [5] reported that a protected value is based on deontological rules, which contrasts with consequentialism and represents the normative position that judges the morality of an action based on its adherence to a rule or rules. These values can be described as duty-, obligation-, or rule-based beliefs because these beliefs stipulate that people conform to certain standards of behaviour.

***Corresponding author:** Hatori T, Department of Civil and Environmental Engineering, Ehime University, Ehime, Japan, Tel: +81-89-927-9834; E-mail: hatori@cee.ehime-u.ac.jp

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Actions are more important than consequences for people who possess protected values. They have a belief in obligatory support or non-support for certain actions, regardless of the result of the action. Protected values have four characteristics derived from the standpoint of this deontological rule: moral obligation, quantitative insensitivity, anger, and absoluteness [5]. First, the actions required or prohibited by protected values are regarded as moral obligations, as they are universal and objective, not simply conventions or personal preferences. Second, protected values make people insensitive to consequences. For example, an environmentalist with protected values linked to environmental conservation may consider destroying a species through a single act to be as bad as destroying a hundred species through a single act. Third, people may become angry if their protected values are violated because they see it as a moral violation. Fourth, protected values can be associated with absoluteness, as people believe that these values should be protected from any trade-offs under any circumstances. In this study, we examined whether these properties could be observed among Indonesians with regard to their attitudes towards to a regional project.

Protected values and procedural fairness

Since the pioneering work of Thibaut and Walker [12], which first presented the idea of procedural fairness, a large body of literature has demonstrated that perceptions of *procedural fairness* are important predictors of policy acceptance [13,14]. The term procedural fairness is defined as the fairness of the procedures used to determine policy outcomes [13]. This is different from the concept of outcome fairness, which relates to the distribution of the costs and benefits within society [15]. Much evidence suggesting that people are more likely to accept policy decisions that come from fair procedures than those from unfair procedures has accumulated within the field of social psychology [14,16,17]. For example, Tyler et al. [17] found that the endorsement of the Reagan administration's tax policies in the United States was more strongly influenced by judgments of procedural fairness than by other outcome-related concerns.

The concept of procedural fairness is particularly important in light of efforts to promote public acceptance during regional decision-making processes involving trade-offs among values. Stakeholders usually have a variety of values that are more or less mutually incompatible or that even conflict with regional policy-making protocols. However, the observation that people also care about procedural fairness suggests that they can accept a regional policy if they perceive that it is fair, even if the policy is not attractive based on outcome-related concerns [13].

Thus, a regional project tends to be accepted when the process surrounding the project is considered fair. However, people with protected values would likely reject the project even if they originally felt that the project's procedures were fair. After recognizing that a project conflicts with their protected values, they might not feel that the procedure was/is fair. In particular, according to the value protection model developed by Skitka [11], people are motivated to protect their sense of personal identity when it is threatened, and they do so by making cognitive, affective, and behavioural adjustments, all of which impact whether they will feel an event is fair or unfair. According to this model, protected values can derogate from procedural fairness. Based on this background, the following hypothesis regarding the association between protected values and perceptions of procedural fairness was developed:

Hypothesis 1: Even if people originally believe a procedure for a regional project is fair, they may not think it is fair after recognizing that the project conflicts with their protected values.

The present study focused on the role of trust in government as a potential mitigator of the derogation effects of protected values on perceptions of procedural fairness. Fujii [18] reported that trust in government affects people's perceptions of procedural fairness and their approval of a regional project. Even if people have protected values that conflict with a regional project, they may believe that the procedure is fair and accept the project if they trust the government. This is particularly true in this case, as the study was investigating residents' attitudes towards a highway construction project not yet conducted. As a result, we expected that levels of trust in government would moderate the relationship between protected values and perceived procedural fairness. Accordingly, we proposed the following hypothesis:

Hypothesis 2: Trust in government mitigates the derogation effect of protected values on perceptions of the procedural fairness of the process surrounding a regional project.

Methods

Description of the flyover construction project in Indonesia

Our survey focused on the *Simpang 5* flyover construction project that was being planned around three cities (Makassar, Maros, and Watampone) in the South Sulawesi province of Indonesia (Figure 1). The intersection in front of the entrance to Hasanuddin International Airport at Makassar is a critical traffic convergence point for drivers travelling from Makassar to Maros and those traveling on the Reformasi toll highway that enters the airport. Drivers going from Watampone to Makassar or to the airport also use this intersection. In 2013, the government developed the Simpang 5 flyover and underpass construction project to connect Makassar with Maros (Figure 2). The project cost RP. 300 billion/year (US $30 million) over several years and was to be jointly funded by state and regional budgets. This project required 1.97 ha of land according to government regulation no.

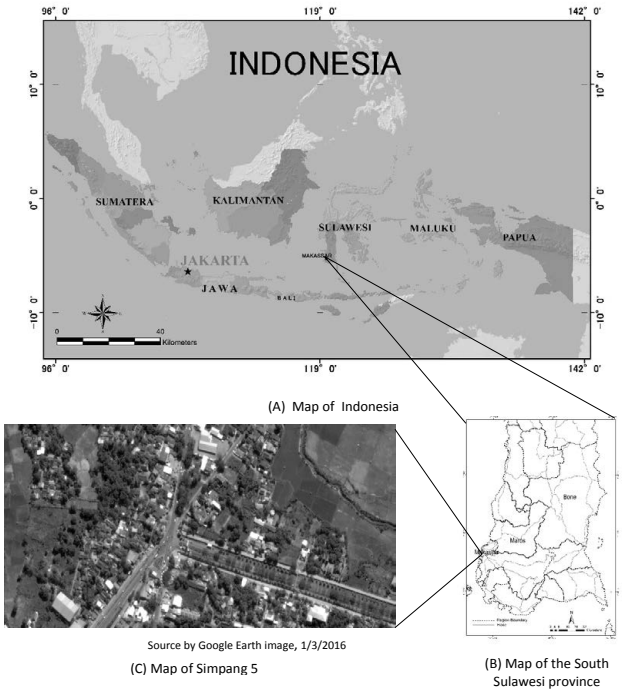

Figure 1: Survey area.

Figure 2: The Simpang *5* project.

71/2012, and the design called for a 1,050-m-long underpass that was 120 m long and 2 × 9 m wide.

The government promised that completion of this project would prevent prolonged traffic gridlock, which was commonly experienced around the intersection. However, a mosque (place of worship), residences, and public facilities, such as cemeteries, traditional markets, offices, and restaurants, around the intersection had to be moved or destroyed for this project. The government decided to follow the recommendations emerging from a cost-benefit analysis of the situation. To this end, a workshop was held with infrastructure experts and management companies to analyze the benefits and costs. The conclusion of the workshop was that the benefits were much higher than the costs. Accordingly, the government announced that it was proceeding with the project.

Respondents

Three hundred residents of three cities (Makassar, Maros, and Watampone; 100 respondents/city) were recruited randomly and participated in a questionnaire survey about the *Simpang 5* flyover construction project. The sample consisted of 148 males (49.3%) and 152 females (50.7%), and their mean age (standard deviation) was 33.46 (10.92) years (range of 19-65 years).

Procedure and instruments

Questionnaires were administered by one member of a team of seven interviewers at the homes of respondents between March 12 and March 24, 2014. Before undertaking the survey, the interviewers attended a 3-hour briefing session about how to administer the questionnaire and were informed about the study objectives. Each interviewer administered 35-45 questionnaires, and the average duration/questionnaire was 30 min. Each respondent was informed that his or her responses would be used for research purposes only and was assured of confidentiality.

In this survey, we assessed respondents' protected values against the *Simpang 5* project. Their perceptions of the procedural fairness of cost-benefit analysis were measured twice; first, before they read the scenario that the *Simpang 5* project adopted cost-benefit analysis to implement the project, and a second time after they read the scenario. Using a within-subject design, the difference in each respondent's perception of procedural fairness between the first and second time was assessed to examine the influence of his or her protected values on the perceived procedural fairness for the project.

Pre-procedural fairness: Respondents were asked two questions related to the procedural fairness of cost-benefit analysis: "This procedure (cost-benefit analysis) is a fair way to implement the project," and, "This procedure (cost-benefit analysis) provides for the fair treatment of those involved." Respondents indicated their agreement with the statements using a 7-point Likert scale ranging from 1=totally disagree to 7=totally agree. These two ratings were added to yield a single score. The Cronbach's alpha of this measure was 0.74, which is high and indicated that the measure was reliable. This measure, which assessed perceptions of *pre-procedural fairness*, addressed each respondent's original feeling about the procedural fairness of cost-benefit analysis (i.e. feelings before they were informed about the actual *Simpang 5* project procedure).

Attitude towards the project: Respondents were asked to read an explanation of the *Simpang 5* project. After they read the description, their tendency to possess protected values regarding the project was measured according to Baron and Spranca [5]. They were asked to choose the option from the following three options that was the closest to their opinion regarding the project:

1) The project should be prohibited no matter how great its benefit.

2) The project should be accepted if it provides a sufficient benefit.

3) I agree with the project.

As suggested by Baron and Spranca [5], respondents selecting choice 1 were identified as possessing protected values about this project. Hereafter, they are called *PVs*; those who selected choices 2 or 3 are called *non-PVs*.

Respondents were then asked to rate their agreement with four items regarding the deontological rule: absoluteness ("I cannot think of any benefit of allowing this project to proceed"), moral obligation ("We have an obligation to try to stop this project"), anger ("I am angry about this project"), and degree of insensitivity ("It is equally wrong to allow this project to be implemented once or twice"). All items were rated on a 7-point scale ranging from 1=totally disagree to 7=totally agree. Additionally, trust in government was assessed by asking respondents to use a 7-point scale ranging from 1=not at all to 7=very much so to rate the extent to which they trusted the government.

Post-procedural fairness: Respondents were asked to rate the fairness of the procedure (cost-benefit analysis) used for the *Simpang 5* project in the same way as pre-procedural fairness was assessed. We also created an additional two-item scale, which had an alpha reliability of 0.80. This measure, which assessed perceptions of *post-procedural fairness*, addressed respondents' feeling about the procedural fairness of the cost-benefit analysis after they were informed about the actual Simpang 5 project procedure.

Results

Possession of protected values

The proportions of people with protected values were 22% in Makassar, 21% in Maros, and 26% in Bone. In terms of the reasons behind the protected values related to the *Simpang 5* project, 51% of respondents cited religious reasons based on the fact that the project would destroy a mosque. Yet, 34% of respondents had protected values based on the fact that the project would force some residents to move.

To examine associations between a binary variable representing the possession of protected values and demographic variables, odds ratios (ORs) and 95% confidence intervals (CIs) for each level of each variable were calculated. As shown in Table 1, females were more likely

to possess protected values than were males. It was also shown that people who were 45-54 years of age, had been public servants, or who had graduate degrees were less likely to possess protected values.

Properties of protected values

The four characteristics of the deontological rule were compared between PVs and non-PVs, and these results are shown in Figure 3. PVs tended to possess more psychological traits associated with the deontological rule than did non-PVs (t=1.78, p=0.08 for absoluteness; t=4.87, p=0.00 for moral obligation; t=3.62, p=0.00 for anger; and t=2.96, p=0.03 for quantity insensitivity). These results demonstrate the validity of the current measure for protected values.

Impacts of protected values on procedural fairness

Figure 4 shows the differences between the pre- and post-procedural fairness ratings for the PV and non-PV groups. PVs viewed the procedure of cost-benefit analysis to be significantly less fair at the end than they did initially (t=2.74, p=0.01), whereas non-PVs had similar reactions to pre- and post-procedural fairness (t=-1.36, p=*n.s.*). This result indicates that respondents holding protected values did not think the project procedures were fair if they recognized that this was inconsistent with their values. Thus, perceptions of procedural fairness decreased in those with protected values. This result supports our first hypothesis.

Variable	OR	95% CI	*P* Value
Gender			
Male	-	-	-
Female	1.73	1.00-2.99	0.05
Age			
18-24	-	-	-
25-34	0.81	0.41-1.59	0.54
35-44	0.64	0.32-1.31	0.22
45-54	0.27	0.10-0.77	0.01
55≤	0	0.00-0.00	1
Occupation			
Employee	-	-	-
Public servant	0.41	0.18-0.91	0.03
Part time job	1.52	0.37-6.26	0.56
Student	1.17	0.52-2.63	0.71
Housewife	0.25	0.05-1.25	0.09
Self-employed	0.46	0.13-1.59	0.22
Others	1.14	0.33-3.96	0.83
Education			
<High school graduate	-	-	-
High school	0.61	0.17-2.22	0.46
College degree	0.72	0.21-2.54	0.61
Graduate degree	0.19	0.04-0.92	0.04

Table 1: Odds ratios for possession of protected values (n=300).

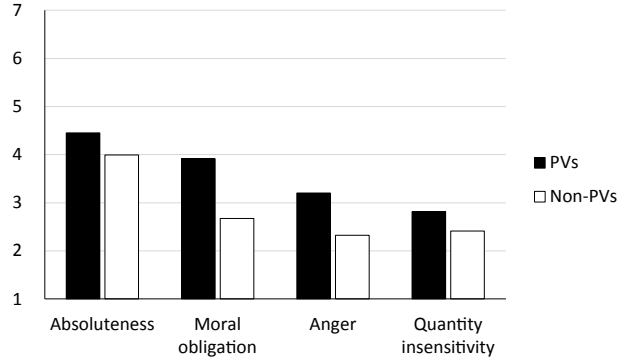

Figure 3: Means of the properties of the deontological rule among people with (PVs) and people without (non-PVs) protected values.

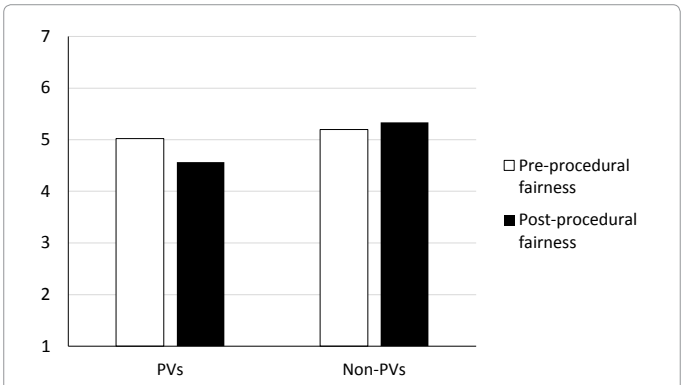

Figure 4: Means of perceptions of pre- and post-procedural fairness among people with (PVs) and people without (non-PVs) protected values.

	PVs	Non-PVs
Higher trust	5.08	5.38
Lower trust	3.95	4.69

Table 2: Means of post-perceptions of procedural fairness associated with protected values and trust in government.

Effect of trust in government

We examined whether the effect of protected values on perceptions of procedural fairness was mitigated by trust in the government. We classified respondents into higher and lower trust groups according to their score on the trust measure: respondents with scores in the top 50% of the sample were placed into the high-trust group, and those with scores in the bottom 50% of the sample were placed into the low-trust group. Then, we compared the means for perceptions of post-procedural fairness among the four groups (i.e. PVs and non-PVs in the high-trust group and PVs and non-PVs in the low-trust group). As shown in Table 2, the difference in the perceptions of post-procedural fairness held by PVs and non-PVs was small in the high-trust group, (t=0.85, p=*n.s.*), whereas this difference was significant in the low-trust group (t=3.58, p=0.00). This result supports hypothesis 2.

Structural equation model analysis

Finally, we estimated a structural equation model (SEM) to verify the causal relationship between procedural fairness and protected values. Trust was also included in this model as a mediator to reduce the detrimental effect of protected values on perceptions of procedural fairness. Figure 5 shows the estimated coefficients of the model. The model includes only paths that were significant at the 5% level. The link between trust and post-procedural fairness was omitted because it was not significant. The model fit was found to be acceptable: GFI=0.98, adjusted GFI=0.95, CFI=0.98, and RMSEA=0.06.

As shown in Figure 5, protected values had a negative effect on post-procedural fairness. Pre-procedural fairness was positively related to post-procedural fairness, and trust had a positive effect on pre-procedural fairness. Accordingly, trust indirectly affects post-procedural fairness through its influence on pre-procedural fairness. The total effects of these variables as the sums of direct and indirect effects on post-procedural fairness are shown in Table 3. Whereas post-procedural fairness was influenced most strongly by initial ratings of procedural fairness, the negative effects of protected values on post-

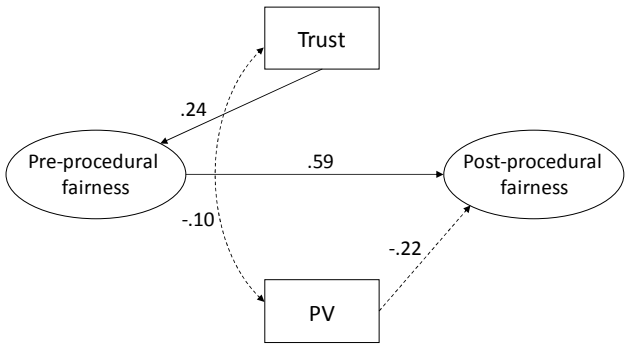

Figure 5: Results of the SEM analysis for post-procedural fairness.

	Total effect	Direct effect	Indirect effect
Pre-procedural fairness	0.59	0.59	0.00
PV	-0.22	-0.22	0.00
Trust	0.19	0.05	0.14

Table 3: Total effects (standardized coefficients) on post-perception of procedural fairness.

procedural fairness as well as the mediating effect by trust were also found to be significant.

Discussion

The present survey showed that about 20% of respondents had protected values in opposition to the *Simpang 5* project. The proportion of protected responses was generally lower than that shown in previous studies examining the prevalence of protected values in a hypothetical choice. For example, the results of a survey by Lim and Baron [7] showed that the mean proportion of respondents with protected values relevant to 17 hypothetical choices was 57.24% (SD=17.22) in a Malaysian sample, 59.06% (SD=20.67) in a Singaporean sample, and 57.47% (SD=14.18) in a U.S. sample. A particularly relevant factor affecting the difference between actual decisions and hypothetical decisions is the importance of consequences [19]. As previously discussed, protected values are based on a deontological rule that binds people to a certain decision, independent of the decision's consequences. Protected responses based on such a rule are more likely to appear in hypothetical decision scenarios when respondents are asked to make a hypothetical decision with hypothetical outcomes irrelevant to actual outcomes. On the other hand, as shown in this study, protected responses were less likely to appear in actual decision scenarios, as respondents tended to take into account actual outcomes when they had to live with them. Yet, as demonstrated by Baron and Spranca [5], our results show that some respondents also had protected values associated with the four properties of the deontological rule when making decisions related to an actual problem.

As already explained, previous studies have emphasized the importance of procedural fairness in residents' acceptance of public decisions [13]. Yet, our results suggest that residents' perceptions of procedural fairness can be affected by the presence of protected values. It should be noted that residents' initial perceptions of procedural fairness were shown to still exert a significant impact on their views of the procedures even after they recognize that the project conflicted with their protected values. Even so, however, the present findings regarding the negative effect of protected values indicate that residents with protected values might oppose a project if their values were threatened by the project, even if the project followed fair procedures.

Another finding of our study supports the role of trust in government as a mitigator of the derogation effect of protected values on perceptions of procedural fairness. As long as residents trust government, perceptions of procedural fairness can be maintained even if some residents have protected values that are relevant to regional projects. The government should make efforts to promote trusting relationships with residents through, for example, showing their sincerity. Our results, however, show that trust in government does not have a direct effect on the final perceptions of procedural fairness (post-procedural fairness). Furthermore, the negative correlation between trust and protected values suggests that people with protected values tend not to trust government. Thus, the ability of trust to mitigate the derogation effect of protected values may be limited. Therefore, even if trusting relationships between residents and the government can be formed, it would be difficult for the government to completely avoid a situation in which residents' perceptions of procedural fairness are diminished by protected values.

More generally, our findings suggest the need for more fundamental measures that focus on the nature of protected values and allow decision-makers to reach reasonable decisions about regional projects. As suggested by Baron and Leshner [6], protected values result from unreflective overgeneralizations that lead to incorrect or overgeneralized concepts. People tend to develop protected values without giving sufficient thought to the possible benefits and costs related to the actions required or prohibited by their values. However, people may change even extremely strongly held attitudes by reflecting on their validity. It is important for local governments to communicate effectively with stakeholders so that those with protected values consider the implications of their opinions on the region.

Note that the present sample consisted predominantly of Muslims, a group that tends to have protected values that often lead to opposition to various projects based on religion. Although religion is likely to lead people to protect their own values [7], the relationship between protected values and religion has not been sufficiently examined theoretically or empirically. A cross-cultural study examining the prevalence of protected values in different cultures would contribute to understanding the effects of religion and other demographic variables, such as race and educational level, on the development of protected values. Additionally, given the socially harmful impact of protected values, it is also important to study the psychological processes by which protected values are developed or mitigated. Experimental research that examines the effects of reflective thinking and communication processes on protected values would contribute to developing relevant measures to reduce the negative impacts of protected values.

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