*IOSR Journal of Business and Management (IOSR-JBM)*
*e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 20, Issue 6. Ver. III. (June. 2018), PP 50-65*
*www.iosrjournals.org*

# Efficiency of Mining Projects in South Sulawesi: Relationship between Cultural Riskand Project Success

Ganda Subrata[1], Mahlia Muis[2], Sumardi[3], Muh. Yunus Amar[4]
[1](Economy & Business, University of Hasanuddin Makassar, Indonesia)
[2](Economy & Business, University of Hasanuddin Makassar, Indonesia)
[3](Economy & Business, University of Hasanuddin Makassar, Indonesia)
[4](Economy & Business, University of Hasanuddin Makassar, Indonesia)
*Corresponding Author:Ganda Subrata*

***Abstract:****This study uses internal risk variables, external risks, and cultural risk mitigation to examine the effects of these risk variables on project success and project efficiency as a mediating variable. Data from 179 employees from four contractor companies who work on mining in South Sulawesi revealed that internal risks negatively affect project efficiency but are positive for project success; external risk positively affects project efficiency and negatively affects project success; cultural risk mitigation positively affects both project efficiency and project success; and project efficiency does not mediate the relationship between internal risks, external risks, and cultural risk mitigation on project success. A number of theoretical and practical implications of the present invention are discussed in the context of Indonesia and globally.*

***Keywords****: internal risk, external risks, cultural risk, project success and project efficiency.*

---

Date of Submission: 31-05-2018 Date of acceptance: 16-06-2018

---

## I. Introduction

South Sulawesi is a region rich in mineral resources. Various projects both supporters and major mining projects implemented to obtain and cultivate this natural wealth. The volume of projects implemented is large but not balanced with the number of available project managers. Current conditions, a project manager must handle about 60 projects a year (BKPSDM East Luwu, 2017).This ratio is very far from fairness. Ideally for five to ten projects are handled by a project manager, although it must look at the scale of the complexity of the project. Excessive handling of the project may result in a lack of supervision that leads to inefficient project,delay on project completion as well as cost and quality not as per the project ownerexpectation.

Meanwhile, external factors also need to be considered. In 2011, an earthquake with a magnitudeof 6.1 on the Richter scale rocked the nickel producing region of Soroako, South Sulawesi on Tuesday (15/2/2011) at exactly 20:33 WIB. Widespread seismic effects are felt to Kendari, Southeast Sulawesi, and Poso, Central Sulawesi (Tempo, February 15, 2011).

The existence of internal risks and external risks in project management has been reasonably well studied. However, there is one type of risk that escapes attention, namely cultural risk. For a multicultural country like Indonesia, cultural risks cannot be underestimated.There are at least three cases that reflect the importance of cultural risk, to illustrate this: the case of a million-hectare project, the case of the REDD(Reducing Emission through Deforestation and Forest Degradation) project and the Sebangau Park project case. These three projects have similarity, not only all three in one location, also the three involve cross-cultural projects.In the case of a million-hectare project, the cultures involved are local, Java and Singapore. In the case of REDD projects, local cultural involvement is always involved, national cooperation, and Australia. In the case of WWF (World Wildlife Fund), the cultures involved are local, national, and global. However, only the WWF project has achieved its objectives. The reason is the ability to mitigate and manage cultural risks. Some may argue that the three projects are unequal because the first two projects are infrastructure projects while the WWF project is a conservation project, but this does not eliminate the fact that all three involve major cultural risks and that the WWF project is also an infrastructure project, not even for humans, but for orangutans who are deemed inferior to humans.

If typologically seen, cultural risk can be viewed as an external risk, since it is outside the project's interest. However, it can also be seen as an internal risk because it is within the reach of the project manager's influence. As a result, risk typologies developed in the literature often do not take into account the cultural risks in typology.

On the other hand, cultural risks are increasingly important nowadays in project management. Cultural risk, together with legal risk, is seen as a form of critical risk that leads to misunderstandings, delays, and

increased costs in certain projects, especially in the unusual environmental setting for project managers (Ayudhya and Israngkura, 2012). Hashmi and Hashmi's research (2006) concludes that developed countries are more likely to take account of cultural risks than developing countries. Meanwhile, on the other hand, Ika (2012) found that cultural risk is a major risk in development in developing countries. It is ironic that projects in the most culturally risky regions are the least account of this risk.

When viewed in internal-external typology, it is difficult to place cultural risks in any of these two categories. On the one hand, cultural risk can be internal because of the project's specific location, but it is not entirely within the manager's ability to manage it, especially since culture has been ingrained in society for centuries. On the other hand, it also cannot be viewed externally because of the fact, it is tied to the location of the project implemented. Consequently, it needs to be viewed as another form of internal and external risk.

Other typologies have indeed been proposed to include cultural factors. Zayed et al (2008) considers that cultural risks are part of macro risk, along with financial, political and market risks. However, as has been previously argued, cultural risk cannot be categorized as an external risk, and macro risk is more or less the same as external risk. Other typologies, as reviewed by Lu et al (2014) do not include any cultural risk at all in their classification.

Given the importance of cultural risks to the Indonesian context and the lack of typology that incorporates cultural risks as a distinct risk in project management, it is important to investigate cultural risk issues within the Indonesian context.

In line with the above issues, this study aims to analyze the impact of internal risks, external risks, and cultural risks on two output variables in project management, ie project success and project efficiency. This research is useful in clarifying the effects of cultural risk on project efficiency and project success in the mining context. This in turn would serve as a practical risk management material for mining companies that run projects in remote areas of Indonesia and other countries.

## II. Theory and Development of Hypotheses

### II.1 Model Three Dimensional Risks in Mining Project in South Sulawesi

Risks are "factors that are likely to affect the project's objectives in terms of scope, quality, cost, and time, and include both threats that hinder the achievement of this goal and the opportunity to improve it" (Sennara and Hartman, 2002). In the field of construction, several risk categorizations have been put forward. The simplest typology proposed by Tah and Carr (2001: 838) consists of only two categories, external and internal risks. Later, Zavadskas et al (2010: 34) developed this categorization into external, internal, and project risks. Among the internal risks are resource risk, project member risk, construction site risk, document and information risk, stakeholder risk, designer risk, contractor risk, subcontractor risk, and team risk. Meanwhile, belonging to external risks are political risk, economic risk, social risk, and weather risk. Project risk is considered to include time risk, cost risk, work risk, construction risk, and technology risk. The reason for the formation into these three groups is that internal and external risks are present outside the project implementation stage. Therefore, project risk is differentiated as the risk present in the project implementation.

Cultural risks are factors that are likely to affect the project's objectives in terms of scope, quality, cost, and time, and include both threats that hamper the achievement of this goal as well as the improved opportunity, derived from a mind-collective program that distinguishes members of one group or community categories from others to the project community, particularly at the local level, but may also include national levels, particularly in multinational institutions' projects.

Several project risk management frameworks use consideration of cultural factors. The PEST (Political, Economic, Socio-Cultural, Technical) Framework weighs four risks: political, economic, socio-cultural and technical risks to a project (Shrestha, 2011). Unfortunately, PEST theory incorporates social risk with cultural risk and does not attempt to distinguish between social and cultural aspects. Moreover, environmental risks are also included in socio-cultural risk. The expansion of this framework is in the form of PESTLE (Political, Economic, Socio-cultural, Technological, Legal, Environmental), indeed separates the environment from PEST, but not culture. Schmieder-Ramirez and Mallette (2015) developed a risk framework of SPELIT (Social, Political, Economic, Legal, Intercultural, Technological) that separates social and cultural risks, enabling cultural factors to be taken more deeply.

A number of theories have been put forward to explain the importance of cultural risks in projects. The commonly used theory is the theory of social identity (Zhang and Liang, 2008). The theory of social identity argues that humans have a social identity, defined as "a reflection of categories, groups, and social networks where a person becomes a member"(Al Raffie, 2013: 76). Social categories, which are the source of social identity, provide the foundation for networking and social grouping at the community level, including ethnicity, religion, and gender.Furthermore, this social category forms the imaginary boundaries that divide who is a member and who is not. These limits are made by assigning values and norms that must be adhered to so that a

person can become a member of the group. These limitsalso form the system of meaning and framework required by its members in understanding the surrounding environment.

Another perspective that can be used is an institutional theory perspective (Mahalingam and Levitt, 2007). Institutional theory holds that humans behave not on rational grounds, as stated by rational-actor theory, but based on something irrational. This irrational foundation derives from the beliefs and schemes that environmentalists have on the (individual) actors. The beliefs and schemes of this environment are called institutions (Mahalingam and Levitt, 2007: 523).

The measurement of cultural risk may vary depending on the theoretical base used. If social identity theory is used as a foundation, cultural risk can be measured by the level of self-confidence of community members, and the level of societal ego, reflecting the functioning of social categories, as well as qualitatively through the norms and stereotypes circulating in society about projects and companies as a source of discrimination between group members and non-group members. Meanwhile, if institutional theory is used, research can be qualitative because it must take into account the rules, norms, and values that exist in society, then compare it with the behavior of the project or company.Quantitative measurements can be performed on community values, using Schwartz's value questionnaires (Schwartz and Rubel, 2005). However, its application becomes difficult in traditional societies based on oral tradition rather than written.

A more feasible way of quantitative measurement of cultural risk is to highlight on the success factors in cross-cultural contact.Success factors in cross-cultural contacts reflect the lack of risk culture because of cultural differences is compromised and communities receive culturally to the project or organization on an ongoing basis.From the perspective of social identity, this means that the company is recognized as a member of the group or at least a partner, while from an institutional perspective, this means that the project or organization has been in accordance with the institutional pressure of the environment so that the behavior of the project or organization is entirely devoid of institutional pressure. Looking at these success factors, a number of studies have provided clues. These success factors include cross-cultural sharing, cross-cultural trust, cultural intelligence and cultural sensitivities (Lientz, 2012; Osei-Bryson and Barclay, 2015; Martincova and Lukesova, 2015; Hajj-kazemi et al., 2015; Luckmann, 2015).

This research will positively operationalize the cultural risks, in the sense of looking at the steps taken to mitigate cultural risks in the form of these success factors. This allows the risk variables to be assessed simultaneously along with the associated risk mitigation, so that it can be seen whether mitigation measures can be effective in the field.

**II.2 Risk and Project Success**

A number of studies have examined the effect of project risk and efficiency by incorporating cultural risk factors. Moertini (2012) examines risk management in the early stages of information systems development projects. This study found cultural risk as a risk to the second priority of three types of risk. Arslan's (2010) study examined the factors that influenced the expansion decisions in construction companies in Turkey. It was found that these companies ignored cultural risk factors in decision making. The Shestha Research (2011) is directed to develop a risk analysis framework on public-private partnership projects in road construction. This study identifies socio-cultural factors as one of the project risks.

Another study from Hodiamont (2010) examined general risk management in case studies in Uruzgan province, Afghanistan. There are a number of socio-cultural risks in projects in this conflict area. Including socio-cultural risks are competition and internal conflict, work ethic and religion, opium farming, and local property rights. Costa et al (2009) developed a contract management system that enhances the contract management process, risk management tools, and step-by-step efficiency evaluation procedures. This study considers cultural risks in project efficiency. Culture is also a key concept studied in cross-cultural project management research by Gregory (2010), Eberlein (2008), and Liang et al (2009).

Although manyliterature explains the existence of cultural risks in project management (eg Chan et al., 2004), this factor is not included as a variable in a correlational or causal study that links the effects of risk on project efficiency. This is due to the assumption that the project works in the same cultural setting. Alternatively, this risk is simply seen as a contractual risk in terms of unclear contractual terms regarding conflict resolution or unclear contractual terms regarding claims and litigation (Zhao et al, 2015: 6). This is due to the assumption that the local community is one of the stakeholders who signed the contract. But this cannot be assumed to be the case because often local people are excluded from contracts and when contracts are made with the community, some communities will oppose and disapprove even if the contract has been signed. Baccarini and Collins (2004) conducted a survey of 150 project managers in Australia and found that community acceptance, as a form of successful mitigation of cultural risks, was only seen as a form of project success by eight managers. In line with this, the authors suspect:

Hypothesis 1a: Internal risks are negatively related to project success.

Hypothesis 1b: External risks are negatively related to project success.

Hypothesis 1c: Cultural risk mitigation is positively related to project success

**II.3 The Role of Project Efficiency for Cultural Risk Mitigation**

The project success variable is a common variable by highlighting the agreement of the respondents that the project stages are indeed completed. In contrast to project efficiency leading to project planning, project success leads to satisfaction from stakeholders (Munns and Bjeirmi, 1996: 83). Because it leads to satisfaction, these indicators aresubjective,and each party can evaluate the success of the project differently (Belassi and Tukel, 1996: 141). Therefore, it needs to be limited that the success of the project here is based on the perceptions of project team members. The perspectives of project team members are selected because they directly work on the project and they are also research respondents.

In line with this opinion, the project success variable is defined as "completing the project stages satisfactorily according to the perspective of project team members" (Serrador and Turner, 2015). The perspectives of project team members are selected because they directly work on the project and they are also research respondents.

Similar to the relationship between risk and project efficiency, the risk relationship with project success can also be established, as project efficiency is correlated with project success. Serrador and Turner's (2015) study shows that project efficiency is only significantly correlated with project success.

Due to the effect of project efficiency on project success and the role of risks in project efficiency, we propose a number of mediation relationships as follows:

Hypothesis 2a: Project efficiency mediates the relationship between internal risk and project success.
Hypothesis 2b: Project efficiency mediates the relationship between external risks and project success.
Hypothesis 2c: Project efficiency mediates the relationship between cultural risk mitigation and project success.

## III. Method

**III.1 Participants and Procedures**

One hundred seventy-nine respondents from four mining companies in South Sulawesi participated in this study. All four companies represent the consulting company and the contractors who work in the mining infrastructure projects.Surveys are collected through direct visits to participating companies for distribution to employees. After one week, the researchers returned to collect the questionnaires that were completed by the respondents.

Eighty three percent of respondents are male and the remaining 17% are women. Furthermore, 64% of respondents are S1 educated, 27% have high school education, 5% have S2 degree, and the rest are SMK, D3 and S3 education. Approximately 39% of respondents have a working experience of 0-5 years, and 33% occupy the position of project team members. Of the total participants, 37% experienced less than 10 projects, 27% experienced more than 40 projects, and the remaining 17% experienced on 11-20 projects, 9% in 21-30 projects, and 8% in 31-40 projects.

**III.2Measurement**

All indicators are measured using a 7-point Likert type scale (1 = strongly disagree; 7 = strongly agree). The explanation for each indicator is as follows:

***Internal Risk.*** Internal risk scale is obtained from Chandra's study (2015). Chandra (2015) has developed a 17-item scale on four subscales that correspond to internal project risk types. This questionnaire has been used to examine the relationship between internal and external risks to project success to the contractors in Surabaya, Indonesia. The study demonstrates the consistency and good psychometric properties of the scale.

In this study, we adopted a 17-item internal risk indicator from Chandra (2015) because this scale has good validity for internal risk. Examples of items from this sample are "insufficient specification" (design risk), "labor availability" (resource risk), "financial resources are lacking" (financial risk), and "construction quality is not appropriate" (construction risk). The reliability coefficient (Cronbach alpha) for this variable is 0.840. The full scale is presented in the appendix.

***External Risk.*** We use an external risk scale from Chandra (2015). This variable consists of nine items. Examples of items are "fire" (natural risk) and "changing construction regulations" (legal risk). The reliability coefficient (Cronbach alpha) for this variable is 0.771.

***Cultural Risk Mitigation***. Respondents filled out a questionnaire on cultural risk mitigation using 19 items developed from the concepts of intercultural competence (Martincova and Lukesova, 2015), cultural sensitivities (Hajj-kazemi et al, 2015), cross-cultural knowledge sharing, and mutual trust is applied (Luckmann, 2015), as well as cultural CSR and cultural symbolization. Examples of items are "employees behave in

accordance with prevailing norms", "discussions with local communities for project planning", "sharing of social knowledge", "employee support to local communities to assign certain responsibilities according to mutual agreement", "help preserve local culture" , and "adapting local building forms". Alfa Cronbach for this scale is 0.895.

***Project Efficiency***. We adopt a construct and project efficiency scale consisting of four items: cost, time, quality, and safety. The reliability coefficient of this variable is 0.898.

***Project Success***. We used a three-item project success scaling: "the project planning stage was satisfactorily completed according to the perspectives of project team members", "the project planning stages were satisfactorily resolved according to the perspective of project team members", and "the project closeout stages were satisfactorily resolved in the perspective of the members project team ". The reliability coefficient (Cronbach alpha) for this scale is 0.843

***Control Variables***. Gender, education, tenure, and number of completed projects are included as control variables.

## IV. Result

### IV. 1 Descriptive Analysis

The mean values, standard deviations, and correlations among variables are shown in Table 1. It can be seen that the external risk is positively correlated with the internal risk ($r = 0.38$, $p < 0.01$). Cultural risk mitigation is positively correlated with internal risk ($r = 0.26$, $p < 0.01$). Furthermore, project efficiency is positively correlated with external risk ($r = 0.21$, $p < 0.01$) and cultural risk mitigation ($r = 0.18$, $p < 0.05$). The project success correlated with internal risk ($r = 0.21$, $p < 0.01$), cultural risk mitigation ($r = 0.39$, $p < 0.01$), and project efficiency ($r = 0.31$, $p < 0.01$).

**Table 1Average, Standard deviation, and Correlation between Variables**

| | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Gender | 1.17 | 0.38 | | | | | | | | | |
| 2. Education | 3.21 | 1.39 | .17* | | | | | | | | |
| 3. Tenure | 2.15 | 1.07 | -.00 | .43** | | | | | | | |
| 4. Projects | 2.98 | 2.06 | .09 | .42** | .49** | | | | | | |
| 5. Internal Risks | 3.85 | 0.71 | .11 | .37** | .14 | .16* | (0.84) | | | | |
| 6. External Risks | 4.99 | 0.78 | -.16* | -.17* | -.03 | -.02 | .38** | (0.77) | | | |
| 7. Cultural Risks Mitigation | 5.16 | 0.71 | .09 | .30** | .02 | -.01 | .26** | -.02 | (0.90) | | |
| 8. Project Efficiency | 5.92 | 0.89 | -.07 | -.33** | -.2** | -.31** | .02 | .21** | .18* | (0.90) | |
| 9. Project Success | 5.31 | 1.01 | .14 | .05 | -.03 | -.05 | .21** | -.04 | .39** | .31** | (0.84) |

*Catatan*: alfa Cronbach ditulis pada diagonal.
* $p < 0.05$. ** $p < 0.01$.

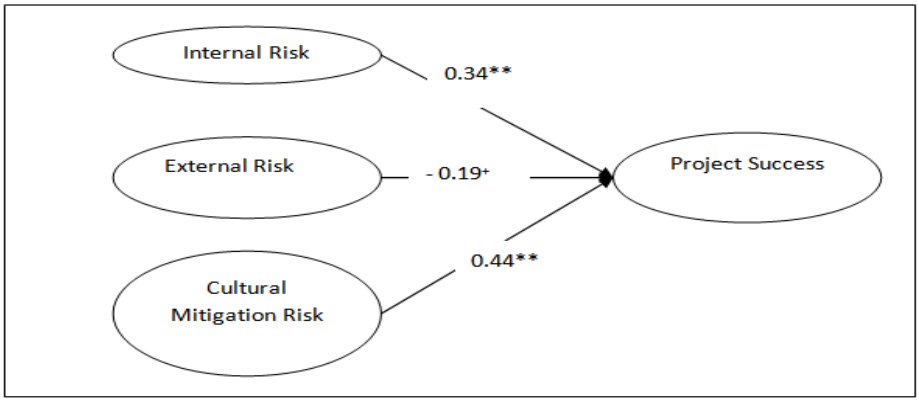
### IV.2 Confirmatory Factor Analysis

We do CFAs for each variable to reduce the number of items. Only valid items are then included in the overall CFA. We then conducted an overall CFA to examine theconstruct existenceof the five main variables used in this study. Internal risks, external risks, cultural risk mitigation, project efficiency, and project success are included in the CFA. We report CFI and RMSEA based on suggestions from Williams, Vandenburg, and Edwards (2009). The results show that the five-factor model corresponds well with the data ($\chi2 = 764,43$; df = 340; $\chi2$ / df = 2,25; CFI = 0.83; RMSEA = 0.08). The results show that the basic model corresponds to the data significantly, supporting the different constructs of these variables.

### IV.3 Hypothesis Testing

In testing Hypotheses 1a, 1b, and 1c, we simultaneously incorporate risk variables and project success variables into the structural equation model (SEM) along with gender, education, tenure, and number of completed projects as control variables. The results are presented in Figure 1.

**Figure 1 The Structure Model Results of the Project Risk and Project Success**



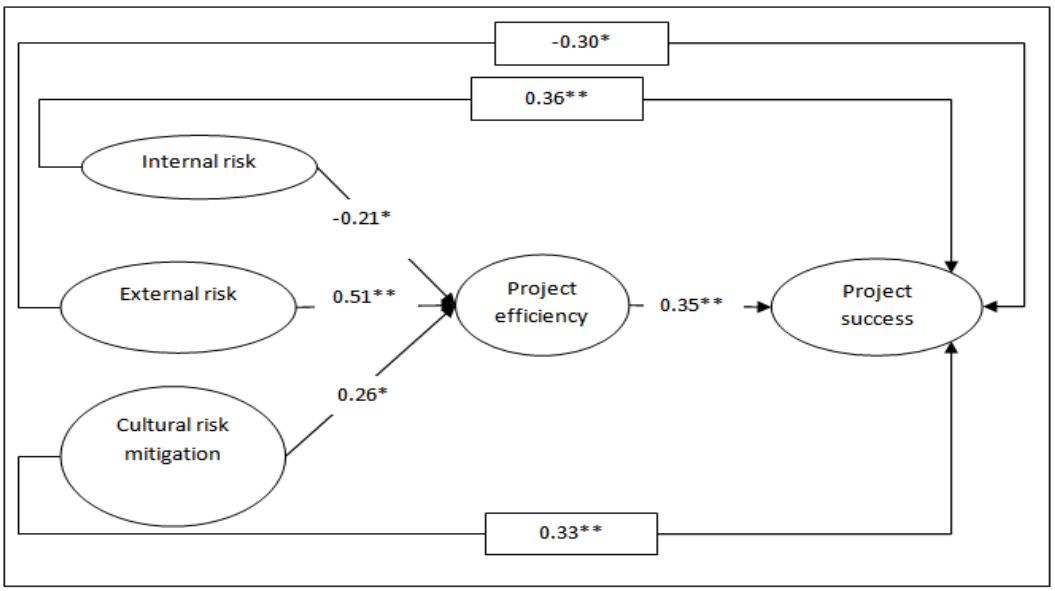

Note: all coefficients are standard coefficients
+ $p < 0.10$; ** $p < 0.01$.

It can be seen that the negative relationship between internal risk and project success is not supported (β = 0.34, p <0.01). However, the negative relationship between external risk and project success is also not supported (β = -0.19, p <0.10). Similarly, a positive relationship between cultural risk mitigation and project success is supported (β = 0.44, p <0.01). This result gives support to Hypotheses 1b and 1c and rejects Hypothesis 1a.

To test Hypotheses 2a, 2b, and 2c that project efficiency mediates all relationships between risk and project success, we follow the advice of Barger and Grandey (2006) who examined the mediation effects on the path model. According to Berger and Grandey (2006), mediation is supported if (1) in the full model, the predictor associates significantly with the proposed mediator and is not associated with the dependent variable and (2) if the nested model that limits the path from the mediator to the dependent variable results in a match are significantly worse and the predictors are significantly associated with the dependent variable.

Figure 2 shows the SEM result. In Step 1, we found that the full model with a direct relationship of the risk variables to the success variable of the project has a good data match, $\chi 2$ (436) = 905.43; CFI = 0.83; RMSEA = 0.08. All risk variables were significantlyassociatedwith project effectiveness variables (βIE = -0.21; p <0.05; βEE = 0,51; p <0.01; βCE = 0.26; p <0.05). However, these risk variables are also associated significantly with project success variables (βIS = 0.36; p <0.01; βES = -0.30; p <0.05; βCS = 0.33; p <0,0 , 01). These results show that the 2a, 2b, and 2c mediation hypotheses are not supported. Since no hypothesis passes from Step 1, then Step 2 is no longer necessary.

**Figure 2 Model of Project Efficiency Mediation**




Note: all coefficients are standard coefficients

* $p< 0.05$; ** $p< 0.01$.

To summarize, SEM results do not support the effect of project efficiency mediation in the relationship between internal risk, external risk, and cultural risk mitigation.

## V. Discussion

Although the importance of cultural risk has been recognized in the project management literature (e.g Chan et al, 2004), it has not been included in causal or correlational models to date. We follow this call and add the basis for the project risk management research highlighting in relation to project efficiency and project success in the South Sulawesi context.

As hypothesized, we found that the risks associated with the project success. While external risks have a negative relationship with project success and cultural risk mitigation positively related to project success, internal risks are in fact positively associated with project success. More importantly, we find that project efficiency does not serve as a mediator between internal risk, external risk, cultural risk mitigation, and project success.

This finding is both promising and surprising. This finding is promising because our research is among the first to examine the relationship between cultural risks and project success and we show that the relationship exists. We also demonstrate that project risks have different relationship properties, thus providing a more interesting picture of the risks types in the project. It appears that internal risks increase project success and otherwise lowering project efficiency. While external risks behave the opposite of improving the project efficiencybut reduce the project success. On the other hand, cultural risk mitigation consistently improves project efficiency and project success. This finding is surprising because it shows that certain types of risks provide different roles on project success and project efficiency. Previously, it was assumed that the risks had only a negative effect on the project success and efficiency. Another unexpected finding, the project efficiency does not contribute as a mediator variable in the relationship between project risk and success, is also surprising. We offer a number of explanations as below:

The positive impact of internal risks on project success can be explained by the risk management awareness of the project manager. The project manager has an understanding of potential risks that influencing project success and efficiency, especially in managers with high project experience. The majority of respondents in the study (63%) had experience in more than 10 projects. More fundamentally, this shows that managers are aware that the projects they are working have high internal risks and because these risks are unavoidable they will take risk mitigation measures. The existence of a positive relationship indicates that these risk management measures are so good that they not only negate the negative effects on the project's success, but instead increase the likelihood of Project Success, although not on project efficiency.

This finding confirms what has been observed by the survey to one of contractor manager that only 49% of managers seethattherisk entirely negative effect on the project. The rest consider that the risk can have both positive and negative effects so that not all risks have a negative effect (Chinbat, 2012). Therefore, Project Management Institute (PMI) (2008) defines project risk as "an uncertain event or condition that, if it occurs, can have a positive or negative effect on at least one project goal, such as time, cost, scope, or quality". Risk is an event or condition that is very valuable in terms of opening awareness as well as opportunities for managers to maintain the viability of the project. This is in line with the opinion that risk poses a negative effect is wrong because of two reasons: first, risk can be manifested as a threat (negative) or opportunity (positive), and how to perceive a risk influences the behavior of how it is dealt with (Fadun, 2013; , 2002; Hilsson and Murray-Webster, 2004). This way of perceiving risk is built on three aspects: how individual attitudes to risk (risk attitude), how group attitudes to risk (risk culture), and how to communicate and reward risks (Coyle, 2002; Arnoldi, 2009; Hindson, 2011). This way of perceiving risk leads to internal risks in this study can have a positive effect on Project Success while not impacting project efficiency.

Positive effects of external risks to project efficiency can be explained in terms of how questions are raised in measuring external and internal risks in this study. Researchers focus on risk aspects, not risk mitigation as in cultural risk variables. A more ideal question is to state internal and external risks as a form of risk mitigation so that it becomes clear the risk management steps taken by project managers. If this is done, it is likely that the model will show a positive effect of internal and external risk mitigation. This is drawn from the explanation of the impact of internal risks previously discussed on project efficiency and Project Success. Moreover, the present invention supports the idea that more attention needs to be directed to the broader aspects of risk management of the project, in terms of actions taken to address the greatest risks. Positive external risk relationships with project efficiency may be due to external mitigation measures conducted by managers. However, this does not exclude the possibility that purely, external risks do have a positive impact on project efficiency (PMI, 2008).

No involvement of efficiency as a mediator for the relationship of risks to project success actually confirms the findings of Serrador and Turner (2015) that the efficiency has correlational properties, not causal, with the project success. Project efficiency and project success are two different things. A project can achieve efficiency but not satisfy the stakeholders due to miscalculation. A project can also be successful but not efficient due to risk mitigation efforts after the project under way.

## VI. Theoretical and Practical Implications

In line with the general research of risk and project success, our research emphasizes the importance of risk mitigation before it appears, especially for internal and cultural risks. In addition, the study adds several theoretical and practical implications.

First, the results of this study indicate two possibilities in treating risk, both internal, external, and cultural, in project management theory. First, by looking at risk as a positive variable by terming it as risk mitigation. Therefore, the more appropriate variables raised rather than internal, external, and cultural risks are variables of internal mitigation risk, external risk mitigation, and cultural risk mitigation. Second, by looking at the risk variable as a separate variable which is then mediated by risk mitigation variables before achieving efficiency or Project Success. In this way, the use of internal and external risk variables is appropriate as an independent variable, while cultural-risk mitigation variables should be seen as cultural risk variables that are then mediated by cultural risk mitigation variables before they can produce output variables such as efficiency and Project Success. The risk mitigation variable is then seen as a process variable in the input-process-output framework in the project risk management theory.

Second, this study implies that project managers should view risk not only as something negative, but it can potentially provide positive effects. This relies on the expertise of project managers in conducting risk mitigation on a preventive or curative basis. Managers should not be satisfied with the existence of cultural risk analysis on the feasibility study report, since it may miss important points in the local culture, especially if the authors of the feasibility study are people from outside local environment.

Third, social upheavals are vulnerable to companies that conduct mining projects in remote areas. Indeed, over time this risk will disappear, but this phenomenon is a form of cognitive bias for two reasons. First, cultural risk is always present because it is stored in the norms and values of society and culture is a long-standing social aspect that is difficult to change. This risk may only last in a single generation. Nevertheless, decentralization in autonomous governance in Indonesia revives cultural risk as each region begins to look back at their cultural identity and elevates it as a form of identity of society and region. Second, the small cultural risks in long-standing companies are the result of natural selection. Many other companies in the past have failed and finally left the site because of conflict with the local community. This leaves companies successful in mitigating cultural risks and hence, all existing firms are companies that have high cultural risk mitigation capabilities or are in a conducive cultural situation in their operational aspects.

## VII. Limitations and Further Research

The results of this study should be interpreted in anumberof the following limitations: First, the respondents in this study are not entirely project managers. Some of them are general managers and some are engineers. Ideally, all research respondents are project managers so that the research findings are more applicable and reflect the perceptions of the entire study sample. Subsequent research should be able to involve samples that are entirely project managers.

Second, the questionnaire in this study did not specify the focus of the project on a particular project. As a result, the source person considers the aspect of the project being evaluated is the project he is experiencing as a whole. This can reach up to more than 40 projects on the majority of respondents. This can be seen as the strength or weakness of this research. As the strength, it means collecting data from a project that is much larger than the number of research samples to allow for broad generalizations. This supports the benefits of quantitative research. But it can also mean weaknesses because it is not clear whether risk mitigation in one project has an effect on the same project. The available data is only a general description on a number of projects at once. This requires qualitative research on a focused project faced by the research resource, or revision of the questionnaire by insisting that they should focus on the one final project they have completed.

Finally, this study uses a mixed method approach with qualitative research properties as a complement to quantitative research. This results in what qualitative research does only as a confirmation of quantitative findings. Qualitative research should be used as a predecessor, not a continuation study. Qualitative precursor research can provide better indicators and theoretical foundations for building a quantitative research framework. As a result, there are at least two findings in this study that cannot be followed up and can only be followed up in subsequent research. First, that risk mitigation must be differentiated from risk. If this is found early, this study can directly test the model with risk mitigation variables as a mediation variable in the relationship model between project risk and outcome. Second, qualitative research finds the existence of

preventative and curative risk mitigation. If this is found early, the research model can directly distinguish between preventative risk mitigation and curative risk mitigation as two dimensions of risk mitigation variables.

## VIII. Conclusion

Cultural risk is a new risk management in developing countries. Characteristic as a multicultural developing country, this risk is important for Indonesia. Our research shows evidence of a positive effect of cultural risk mitigation on the efficiency and success of mining projects. Much more can be explored by further research on cultural risks and mitigation, particularly in developing countries.

## Attachment

**Research Indicators**

**A. Internal Risk**

1. Technological change
2. Not enough specifications
3. Local conditions are different than expected
4. Change of project design
5. Poor material
6. Availability of equipment
7. Availability of manpower
8. Access location is pending
9. Funds are not available
10. The dollar exchange rate changes
11. Inflation
12. Less resources
13. Quality is not appropriate
14. Low productivity
15. Occupational Safety and Health Issues
16. Conflict and labor strikes
17. Negotiating changes to work rules

B. **External Risk**

1. Earthquake
2. Bad weather
3. Fire
4. Natural disasters
5. Construction rules are changing
6. Permission is difficult to obtain
7. Agrarian conflict
8. Administration is slow
9. Changes to the law

**C. Cultural Risk Mitigation**

1. Coziness with different tribal colleagues
2. Project planning associates well and adapts to local culture
3. Employees handle cultural differences well
4. Employees behave in accordance with prevailing norms
5. Discussions with local communities for project planning
6. Local perspectives are discussed in project planning
7. The elements of local culture are included in the project design
8. Sharing the project's environmental knowledge
9. Sharing social knowledge
10. Sharing technical knowledge
11. Clerical employment of local people to assign certain responsibilities according to mutual agreement
12. Have the ability and competence in accordance with its role
13. Dedicated and professional with a shared commitment
14. Help the community develop the culture economically
15. Contributing to cultural activities
16. Help to preserve local culture
17. Use of local symbols

18. Use of local language
19. Adapt local building form

**D. Project Efficiency**

1. Project is able to meet the target cost
2. Project is able to meet the target time
3. Project is able to meet quality targets
4. Projectis able to meet safety targets

**E. Project Success**

1. Project planning steps are completed satisfactorily according to the perspective of project team members
2. Project implementation phases are completed satisfactorily according to the perspective of project team members
3. Project closing stages are completed satisfactorily according to the perspective of project team members

**Appendix A -Descriptive Analysis**

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Sex | 179 | 1 | 2 | 1,17 | ,379 |
| Education | 179 | 1 | 6 | 3,21 | 1,390 |
| Work duration | 179 | 1 | 4 | 2,15 | 1,073 |
| ProjNum | 179 | 1 | 6 | 2,98 | 2,059 |
| Internal risk | 179 | 2,06 | 6,12 | 3,8541 | ,70930 |
| Eksternal risk | 179 | 2,78 | 6,89 | 4,9901 | ,78464 |
| Cultural Mitigation risk | 179 | 3,26 | 6,89 | 5,1552 | ,70532 |
| Project Efficiency | 179 | 3,00 | 7,00 | 5,9218 | ,88972 |
| Project Success | 179 | 2,00 | 7,00 | 5,3147 | 1,00915 |
| Valid N (listwise) | 179 | | | | |

**Appendix B - Correlation Analysis**

| Correlations | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Sex | Edu | Work duration | ProjNum | Internal Risk | External Risk | Cultural Risk Mitigation | Project Efficiency | Project Success |
| Sex | Pearson Correlation | 1 | ,175* | -,009 | ,090 | ,117 | -,162* | ,095 | -,076 | ,145 |
| | Sig. (2-tailed) | | ,019 | ,901 | ,231 | ,120 | ,030 | ,208 | ,311 | ,052 |
| | N | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| Education | Pearson Correlation | ,175* | 1 | ,430** | ,423** | ,374** | -,170* | ,302** | -,333** | ,055 |
| | Sig. (2-tailed) | ,019 | | ,000 | ,000 | ,000 | ,023 | ,000 | ,000 | ,465 |
| | N | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| Work duration | Pearson Correlation | -,009 | ,430** | 1 | ,494** | ,145 | -,036 | ,029 | -,283** | -,032 |
| | Sig. (2-tailed) | ,901 | ,000 | | ,000 | ,053 | ,632 | ,696 | ,000 | ,671 |
| | N | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| ProjNum | Pearson Correlation | ,090 | ,423** | ,494** | 1 | ,167* | -,022 | -,019 | -,311** | -,052 |
| | Sig. (2-tailed) | ,231 | ,000 | ,000 | | ,025 | ,773 | ,801 | ,000 | ,486 |
| | N | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| Internal Risk | Pearson Correlation | ,117 | ,374** | ,145 | ,167* | 1 | ,388** | ,268** | ,028 | ,211** |
| | Sig. (2-tailed) | ,120 | ,000 | ,053 | ,025 | | ,000 | ,000 | ,710 | ,004 |
| | N | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| External Risk | Pearson Correlation | -,162* | -,170* | -,036 | -,022 | ,388** | 1 | -,028 | ,211** | -,047 |
| | Sig. (2-tailed) | ,030 | ,023 | ,632 | ,773 | ,000 | | ,707 | ,005 | ,530 |
| | N | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Cultural Risk Mitigation | Pearson Correlation | ,095 | ,302** | ,029 | -,019 | ,268** | -,028 | 1 | ,183* | ,391** |
| | Sig. (2-tailed) | ,208 | ,000 | ,696 | ,801 | ,000 | ,707 | | ,014 | ,000 |
| | N | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| Project Efficiency | Pearson Correlation | -,076 | -,333** | -,283** | -,311** | ,028 | ,211** | ,183* | 1 | ,312** |
| | Sig. (2-tailed) | ,311 | ,000 | ,000 | ,000 | ,710 | ,005 | ,014 | | ,000 |
| | N | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| Project Success | Pearson Correlation | ,145 | ,055 | -,032 | -,052 | ,211** | -,047 | ,391** | ,312** | 1 |
| | Sig. (2-tailed) | ,052 | ,465 | ,671 | ,486 | ,004 | ,530 | ,000 | ,000 | |
| | N | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 | 179 |
| *. Correlation is significant at the 0.05 level (2-tailed). | | | | | | | | | | |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | | | | | | | | |

## Appendix C – Reliability Analysis

**Scale: Internal Risk**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 179 | 100,0 |
| | Excluded[a] | 0 | ,0 |
| | Total | 179 | 100,0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| ,840 | 17 |

**Scale: External Risk**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 179 | 100,0 |
| | Excluded[a] | 0 | ,0 |
| | Total | 179 | 100,0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| ,771 | 9 |

**Scale: Cultural Mitigation Risk**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 179 | 100,0 |
| | Excluded[a] | 0 | ,0 |
| | Total | 179 | 100,0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| ,895 | 19 |

**Scale: Project Efficiency**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 179 | 100,0 |
| | Excluded[a] | 0 | ,0 |
| | Total | 179 | 100,0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| ,898 | 4 |

**Scale: Project Success**

**Case Processing Summary**

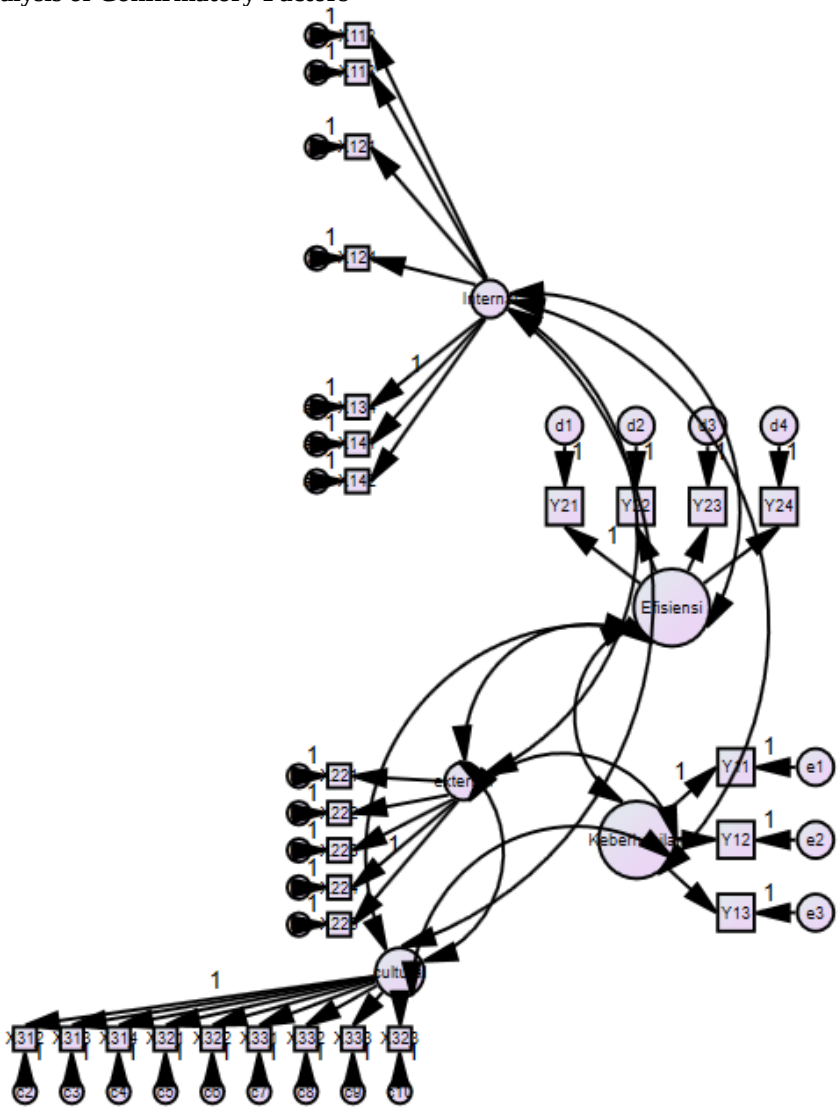
| | | N | % |
|---|---|---|---|
| Cases | Valid | 179 | 100,0 |
| | Excluded[a] | 0 | ,0 |
| | Total | 179 | 100,0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| ,843 | 3 |

**Appendix D - Analysis of Confirmatory Factors**




| | |
|---|---|
| Number of variables in your model: | 61 |
| Number of observed variables: | 28 |
| Number of unobserved variables: | 33 |
| Number of exogenous variables: | 33 |
| Number of endogenous variables: | 28 |

| | Weights | Covariance's | Variances | Means | Intercepts | Total |
|---|---|---|---|---|---|---|
| Fixed | 33 | 0 | 0 | 0 | 0 | 33 |
| Labeled | 0 | 0 | 0 | 0 | 0 | 0 |
| Unlabeled | 23 | 10 | 33 | 0 | 0 | 66 |
| Total | 56 | 10 | 33 | 0 | 0 | 99 |

**Notes for Model (Default model)**
**Computation of degrees of freedom (Default model)**

| | |
|---|---|
| Number of distinct sample moments: | 406 |
| Number of distinct parameters to be estimated: | 66 |
| Degrees of freedom (406 - 66): | 340 |

**Result (Default model)**
Minimum was achieved
Chi-square = 764,427
Degrees of freedom = 340
Probability level = ,000

| | | | Estimate | S.E. | C.R. | P | Label |
|---|---|---|---|---|---|---|---|
| X142 | <--- | Internal | ,954 | ,124 | 7,722 | *** | |
| X141 | <--- | Internal | 1,000 | | | | |
| X134 | <--- | Internal | 1,026 | ,116 | 8,833 | *** | |
| X124 | <--- | Internal | ,879 | ,111 | 7,907 | *** | |
| X121 | <--- | Internal | ,907 | ,114 | 7,980 | *** | |
| X113 | <--- | Internal | ,662 | ,108 | 6,126 | *** | |
| X112 | <--- | Internal | ,826 | ,126 | 6,573 | *** | |
| X225 | <--- | external | 1,000 | | | | |
| X224 | <--- | external | 1,109 | ,103 | 10,780 | *** | |
| X223 | <--- | external | 1,129 | ,099 | 11,448 | *** | |
| X222 | <--- | external | 1,046 | ,093 | 11,279 | *** | |
| X221 | <--- | external | ,554 | ,083 | 6,649 | *** | |
| X323 | <--- | cultural | 1,044 | ,164 | 6,358 | *** | |
| X333 | <--- | cultural | 1,020 | ,161 | 6,333 | *** | |
| X332 | <--- | cultural | 1,312 | ,162 | 8,081 | *** | |
| X331 | <--- | cultural | 1,376 | ,165 | 8,318 | *** | |
| X322 | <--- | cultural | 1,269 | ,163 | 7,788 | *** | |
| X321 | <--- | cultural | 1,312 | ,181 | 7,262 | *** | |
| X314 | <--- | cultural | 1,117 | ,153 | 7,307 | *** | |
| X313 | <--- | cultural | 1,000 | | | | |
| X312 | <--- | cultural | 1,151 | ,165 | 6,997 | *** | |
| Y21 | <--- | Efficiency | 1,000 | | | | |
| Y22 | <--- | Efficiency | 1,078 | ,086 | 12,486 | *** | |
| Y23 | <--- | Efficiency | 1,004 | ,071 | 14,086 | *** | |
| Y24 | <--- | Efficiency | ,845 | ,073 | 11,622 | *** | |
| Y11 | <--- | Success | 1,000 | | | | |
| Y12 | <--- | Success | 1,050 | ,092 | 11,444 | *** | |
| Y13 | <--- | Success | ,897 | ,091 | 9,840 | *** | |

| | | | Estimate | S.E. | C.R. | P | Label |
|---|---|---|---|---|---|---|---|
| Internal | <--> | external | ,190 | ,084 | 2,263 | ,024 | |
| Internal | <--> | cultural | ,279 | ,064 | 4,365 | *** | |
| Internal | <--> | Efficiency | ,041 | ,064 | ,630 | ,529 | |
| Internal | <--> | Success | ,314 | ,082 | 3,841 | *** | |
| external | <--> | cultural | -,114 | ,061 | -1,875 | ,061 | |
| external | <--> | Success | -,051 | ,086 | -,589 | ,556 | |
| external | <--> | Efficiency | ,356 | ,085 | 4,203 | *** | |
| cultural | <--> | Success | ,281 | ,065 | 4,326 | *** | |
| cultural | <--> | Efficiency | ,044 | ,047 | ,942 | ,346 | |
| Efisiensi | <--> | Success | ,264 | ,074 | 3,583 | *** | |

| | | | Estimate | S.E. | C.R. | P | Label |
|---|---|---|---|---|---|---|---|
| Internal | | | ,768 | ,149 | 5,142 | *** | |
| external | | | 1,118 | ,177 | 6,307 | *** | |
| cultural | | | ,427 | ,098 | 4,361 | *** | |
| Efficiency | | | ,736 | ,117 | 6,299 | *** | |
| Success | | | ,884 | ,145 | 6,080 | *** | |
| a14 | | | 1,009 | ,122 | 8,283 | *** | |
| a13 | | | ,732 | ,095 | 7,685 | *** | |

| | | | Estimate | S.E. | C.R. | P | Label |
|---|---|---|---|---|---|---|---|
| a12 | | | ,664 | ,090 | 7,401 | *** | |
| a8 | | | ,785 | ,096 | 8,178 | *** | |
| a5 | | | ,807 | ,099 | 8,133 | *** | |
| a3 | | | ,993 | ,112 | 8,875 | *** | |
| a2 | | | 1,268 | ,145 | 8,751 | *** | |
| b9 | | | ,564 | ,082 | 6,838 | *** | |
| b8 | | | 1,006 | ,131 | 7,659 | *** | |
| b7 | | | ,808 | ,113 | 7,130 | *** | |
| b6 | | | ,743 | ,102 | 7,284 | *** | |
| b5 | | | 1,013 | ,112 | 9,003 | *** | |
| c10 | | | 1,047 | ,117 | 8,923 | *** | |
| c9 | | | 1,013 | ,113 | 8,930 | *** | |
| c8 | | | ,547 | ,069 | 7,877 | *** | |
| c7 | | | ,488 | ,065 | 7,513 | *** | |
| c6 | | | ,642 | ,078 | 8,195 | *** | |
| c5 | | | ,977 | ,114 | 8,566 | *** | |
| c4 | | | ,689 | ,081 | 8,541 | *** | |
| c3 | | | ,691 | ,079 | 8,721 | *** | |
| c2 | | | ,885 | ,102 | 8,697 | *** | |
| d1 | | | ,406 | ,052 | 7,817 | *** | |
| d2 | | | ,388 | ,052 | 7,429 | *** | |
| d3 | | | ,137 | ,029 | 4,711 | *** | |
| d4 | | | ,325 | ,041 | 8,006 | *** | |
| e1 | | | ,468 | ,074 | 6,304 | *** | |
| e2 | | | ,294 | ,067 | 4,375 | *** | |
| e3 | | | ,661 | ,085 | 7,799 | *** | |

| Iteration | | Negative eigenvalues | Condition # | Smallest eigenvalue | Diameter | F | NTries | Ratio |
|---|---|---|---|---|---|---|---|---|
| 0 | e | 13 | | -,911 | 9999,000 | 2829,551 | 0 | 9999,000 |
| 1 | e | 9 | | -,160 | 3,590 | 1593,447 | 20 | ,342 |
| 2 | e* | 1 | | -,097 | 1,403 | 1050,028 | 5 | ,887 |
| 3 | e | 1 | | -,041 | ,801 | 855,919 | 5 | ,810 |
| 4 | e | 0 | 145,038 | | ,746 | 786,576 | 6 | ,908 |
| 5 | e | 0 | 144,227 | | ,576 | 769,696 | 2 | ,000 |
| 6 | e | 0 | 267,858 | | ,328 | 764,619 | 1 | 1,089 |
| 7 | e | 0 | 326,558 | | ,101 | 764,428 | 1 | 1,040 |
| 8 | e | 0 | 334,641 | | ,009 | 764,427 | 1 | 1,006 |
| 9 | e | 0 | 334,590 | | ,000 | 764,427 | 1 | 1,000 |

| Model | NPAR | CMIN | DF | P | CMIN/DF |
|---|---|---|---|---|---|
| Default model | 66 | 764,427 | 340 | ,000 | 2,248 |
| Saturated model | 406 | ,000 | 0 | | |
| Independence model | 28 | 2888,096 | 378 | ,000 | 7,640 |

| Model | RMR | GFI | AGFI | PGFI |
|---|---|---|---|---|
| Default model | ,130 | ,750 | ,702 | ,628 |
| Saturated model | ,000 | 1,000 | | |
| Independence model | ,384 | ,329 | ,280 | ,307 |

| Model | NFI Delta1 | RFI rho1 | IFI Delta2 | TLI rho2 | CFI |
|---|---|---|---|---|---|
| Default model | ,735 | ,706 | ,833 | ,812 | ,831 |
| Saturated model | 1,000 | | 1,000 | | 1,000 |
| Independence model | ,000 | ,000 | ,000 | ,000 | ,000 |

| Model | PRATIO | PNFI | PCFI |
|---|---|---|---|
| Default model | ,899 | ,661 | ,747 |
| Saturated model | ,000 | ,000 | ,000 |
| Independence model | 1,000 | ,000 | ,000 |

| Model | NCP | LO 90 | HI 90 |
|---|---|---|---|
| Default model | 424,427 | 348,048 | 508,527 |
| Saturated model | ,000 | ,000 | ,000 |
| Independence model | 2510,096 | 2342,825 | 2684,759 |

| Model | FMIN | F0 | LO 90 | HI 90 |
|---|---|---|---|---|
| Default model | 4,295 | 2,384 | 1,955 | 2,857 |
| Saturated model | ,000 | ,000 | ,000 | ,000 |
| Independence model | 16,225 | 14,102 | 13,162 | 15,083 |

| Model | RMSEA | LO 90 | HI 90 | PCLOSE |
|---|---|---|---|---|
| Default model | ,084 | ,076 | ,092 | ,000 |
| Independence model | ,193 | ,187 | ,200 | ,000 |

| Model | AIC | BCC | BIC | CAIC |
|---|---|---|---|---|
| Default model | 896,427 | 922,118 | 1106,794 | 1172,794 |
| Saturated model | 812,000 | 970,040 | 2106,079 | 2512,079 |
| Independence model | 2944,096 | 2954,995 | 3033,342 | 3061,342 |

| Model | ECVI | LO 90 | HI 90 | MECVI |
|---|---|---|---|---|
| Default model | 5,036 | 4,607 | 5,509 | 5,180 |
| Saturated model | 4,562 | 4,562 | 4,562 | 5,450 |
| Independence model | 16,540 | 15,600 | 17,521 | 16,601 |

| Model | HOELTER .05 | HOELTER .01 |
|---|---|---|
| Default model | 90 | 94 |
| Independence model | 27 | 28 |

| | |
|---|---|
| Minimization: | ,141 |
| Miscellaneous: | 3,259 |
| Bootstrap: | ,000 |
| Total: | 3,400 |

## References


[1]. Al Raffie, D. (2013). Social identity theory for investigating Islamic extremism in the diaspora. Journal of Strategic Security, 6(4), 67.

[2]. Arnoldi, J. (2009). Risk. Cambridge: Polity

[3]. Arslan, M. A. (2010). Factors Affecting International Expansion Decisions for Turkish Construction Contracting Companies (Doctoral dissertation).

[4]. Ayudhya, B. I. N., &Israngkura, B. (2012). Risk Factors Influencing Internationally Funded Public Infrastructure Projects In Thailand. Suranaree Journal of Science & Technology, 19(3).

[5]. Baccarini, D., & Collins, A. (2004). The concept of project success–What 150 Australian project managers think. Consultant, 68, 45-3

[6]. Belassi, W., &Tukel, O. I. (1996). A new framework for determining critical success/failure factors in projects. International journal of project management, 14(3), 141-151

[7]. Barger, P. B., &Grandey, A. A. 2006. Service with a smile and encounter satisfaction: Emotional contagion and appraisal mechanisms. Academy of Management Journal, 49: 1129-1138

[8]. BKPSDM (Badan Kepegawaian Dan PengembanganSumberdayaManusia) Luwu Timur (2017). KondisiProyek di Luwu Timur, Sulawesi Selatan. Malili: BKPSDM

[9]. Chan, A. P., Scott, D., & Chan, A. P. (2004). Factors affecting the success of a construction project. Journal of construction engineering and management, 130(1), 153-155

[10]. Chandra, H. P. (2015). Structural Equation Model for Investigating Risk Factors Affecting Project Success in Surabaya. Procedia Engineering, 125, 53-59.
[11]. Chinbat, U. (2011). Risk analysis in the mining industry. In Risk Management in Environment, Production and Economy. InTech
[12]. Costa, K., Pimentel, C., Dai, P., Gan, H., Gu, Y (2009). Contract management for international EPC projects (Doctoral dissertation, Southeast University, China).
[13]. Coyle, B. (2002). Risk awareness and corporate governance. Kent: Financial World.
[14]. Eberlein, M. (2008). Culture as a critical success factor for successful global project management in multi-national IT service projects. Journal of Information Technology Management, 19(3), 27-42
[15]. Fadun, O. S. (2013). Risk management and risk management failure: Lessons for business enterprises. International Journal of Academic Research in Business and Social Sciences, 3(2), 225.
[16]. Gregory, R. W. (2010). Review of the IS Offshoring Literature: The Role of Cross-Cultural Differences and Management Practices. In ECIS.
[17]. Haji-kazemi, S., Andersen, B., Eleftheriadis, R., & Capellan, A. (2015). The Early Warning Procedure in an International Context. Procedia-Social and Behavioral Sciences, 194, 85-95.
[18]. Hashmi, R., & Hashmi, R. (2006). Will Different Cultures Give an Impact on Successful Project Management? Department of Computer Science and Electronics (IDE). Mälardalen University.
[19]. Hillson, D., & Murray-Webster, R. (2007). Understanding and managing risk attitude. Gower Publishing, Ltd..
[20]. Hilsson, D. (2002). What is risk? Towards a common definition. Inform: Journal of the institute of risk management, 11-12.
[21]. Hindson, A. (2011). Developing a risk culture. Risk Management Journal. 12, 28-29
[22]. Hodiamont, C. P. M. (2010). A project management analysis of military involvement in civil engineering reconstruction projects during counterinsurgency operations: The case of Uruzgan province, Afghanistan (Doctoral dissertation, TU Delft, Delft University of Technology).
[23]. Ika, L. A. (2012). Project management for development in Africa: Why projects are failing and what can be done about it. Project Management Journal, 43(4), 27-41.
[24]. Liang, M., Yun, L., &Yongkui, L. (2009). Managing stakeholders in large engineering projects: harmonious together development between the project department and peripheral community–a case of shanghai 2010 expo china.The Human Side of Projects in Modern Business, 127-140.
[25]. Lientz, B. P. (2012). Project Management: A Problem-based Approach. Palgrave Macmillan.
[26]. Lu, S. T., Yu, S. H., & Chang, D. S. (2014). Using fuzzy multiple criteria decision-making approach for assessing the risk of railway reconstruction project in Taiwan. The Scientific World Journal, 2014.
[27]. Lückmann, P. (2015). Towards Identifying Success Factors for Cross-cultural Project Customer Engagement: A Literature Review. Procedia Computer Science, 64, 324-333.
[28]. Mahalingam, A., & Levitt, R. E. (2007). Institutional theory as a framework for analyzing conflicts on global projects. Journal of construction engineering and management, 133(7), 517-528.
[29]. Martincová, J., &Lukešová, M. (2015). Critical Thinking as a Tool for Managing Intercultural Conflicts. Procedia-Social and Behavioral Sciences,171, 1255-1264.
[30]. Moertini, V. S. (2012). Managing risks at the project initiation stage of large is development for hei: A case study in indonesia. The Electronic Journal of Information Systems in Developing Countries, 51.
[31]. Munns, A. K., &Bjeirmi, B. F. (1996). The role of project management in achieving project success. International journal of project management,14(2), 81-87.
[32]. Osei-Bryson, K. M., & Barclay, C. (2015). Decision Style Profiles of Project Managers: Preliminary exploration of idea versus Action orientation.Strategic Project Management: Contemporary Issues and Strategies for Developing Economies, 31.
[33]. Project Management Institute, Inc., (2008) A Guide to the Project Management Body of Knowledge: PMBOK guide – Fourth edition, Project Management Institute, Inc., Pennsylvania
[34]. Schmieder-Ramirez, J., & Mallette, L. (2015). Using TheSpelit Analysis Technique For Organizational Transitions.Education Applications & Developments Advances in Education and Educational Trends Series Edited by: Mafalda Carmo, 290.
[35]. Schwartz, S. H., & Rubel, T. (2005). Sex differences in value priorities: cross-cultural and multimethod studies. Journal of personality and social psychology, 89(6), 1010.
[36]. Sennara, M. O. N. A., & Hartman, F. (2002). Managing cultural risks on international projects. In Proceedings of the Project Management Institute Annual Seminars & Symposium (pp. 3-10).
[37]. Serrador, P., & Turner, R. (2015). The relationship between project success and project efficiency. Project Management Journal, 46(1), 30-39.
[38]. Shrestha, M. (2011). Risk framework for public private partnerships in highway construction (Doctoral dissertation, University of Wisconsin-Madison).
[39]. Tah, J. H. M., &Carr, V. (2001). Towards a framework for project risk knowledge management in the construction supply chain. Advances in Engineering Software, 32(10), 835-846.
[40]. Tempo (15 Februari 2011) GempaGuncang Kota Soroako. https://nasional.tempo.co/read/313657/gempa-guncang-kota-soroako
[41]. Williams, L. J., Vandenberg, R. J., & Edwards, J. (2009). Structural equation modeling in management research: A guide for improved analysis. Academy of Management Annals, 3: 543-605.
[42]. Zavadskas, E. K., Turskis, Z., &Tamošaitiene, J. (2010). Risk assessment of construction projects. Journal of civil engineering and management, 16(1), 33-46.
[43]. Zayed, T., Amer, M., & Pan, J. (2008). Assessing risk and uncertainty inherent in Chinese highway projects using AHP. International Journal of Project Management, 26(4), 408-419.
[44]. Zhang, S., & Liang, X. (2008). Culture studies in international construction contracting: an overview. In International Conference on Multi-National Construction Projects "Securing High Performance Through Cultural Awareness And Dispute Avoidance" Shanghai, China.
[45]. Zhao, X., Hwang, B. G., & Gao, Y. (2015). A fuzzy synthetic evaluation approach for risk assessment: a case of Singapore's green projects. Journal of Cleaner Production, 115, 203-213.


Ganda Subrata "Efficiency of Mining Projects in South Sulawesi: Relationship between Cultural Risk and Project Success." IOSR Journal of Business and Management (IOSR-JBM) 20.6 (2018): 50-65.