

# Project risk: Theoretical concepts and stakeholders' perspectives

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## Abstract

Past empirical studies on risk conceptions in general management of developed countries provide compelling evidence to the discrepancy between practitioners' perspectives on 'risk' and the principles of the normative decision theory on which risk analysis tools are based. This study provides a similar investigation for a specific context of project management within a developing country setting. It aims at identifying stakeholders' perspectives on project risks in Indonesia and comparing them against assumptions of rational, normative theories and past findings from general management in developed countries. Two separate cross-sectional surveys were carried out with respondents composed of project contractors (n = 96, response rate = 38.4%) and clients (n = 99, rate = 69.7%), respectively. Empirical results identify significant gaps of risk-related concepts between project stakeholders' perspectives and the rational assumptions of the normative decision theories. For instance, risk is widely viewed by practitioners from the negative domain while the rational theory would suggest a more neutral perspective of risk. The pattern of findings is similar to those from previous empirical studies of developed countries within a general management context.

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## 1. Introduction

As project-based organizations, it is imperative for construction contractors to manage their projects more effectively to maintain business sustainability. A good implementation of project risk management (PRM) is believed to be one of the leading factors attributable to project success and hence companies' long-term success.

Past empirical studies in the general management domain provided some evidences to the assertion that underlying principles in normative (rational) theory of risky decision making (1998) differ from risk-related perspectives held by practitioners. Four key past studies considered relevant to the reported study are briefly described as follows. A landmark work by March and Shapira (1987) found substantial discrepancies between risk concepts which were developed in the classic theory and those being held by perceptions of

executives. Fifty top management from Israel and the United States were inquired (by interview and questionnaire) to find their perspectives on risk concepts, risk-and-return relationship, and degree of controllability of risks. Another substantial study by MacCrimmon and Wehrung (1990) was conducted with respondents composed of 509 top-level business executives in the United States by means of an empirical study. This study aimed at identifying the risk-related attributes of top management in the general management setting. The result of this study was that the managers could be influenced by various determinants when making risky business decisions, including personal (e.g. age, citizenship, and education), financial (e.g. wealth and income), and professional characteristics (e.g. occupation, type of industry and company size). Riabacke (2006) conducted an empirical study with twelve managers in the Swedish forest industry by using interview and experimental studies. The study aimed at identifying the way the managers define and address risks and the method of dealing with risky decisions. Khan and Stylianou (2009) conducted another study of top management (CEO or managers who report directly to the CEO) in the information technology industry. This study focused on exploring the phenomenon of overconfidence in the field of

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information technology. The result was that there is a tendency to be overconfident in the top management level.

While the past empirical studies had provided some initial evidence to the existence of the discrepancies of risk-related conceptions and behaviors between practitioners and normative (rational) theories, some limitations are noteworthy. Firstly, most pertinent past studies were conducted in the context of general management. Hence the insights taken from such studies may not be readily transferable to the specific characteristics of project management. Secondly, the studies were mostly—if not all—carried out in developed countries. Extensive cross-cultural studies by Hofstede (1984) suggested, among other things, the variation of attitude towards uncertainty across different countries. Accordingly, it would be beneficial to study the possible discrepancies within the context of developing countries, in this case Indonesia. Thirdly, most past studies focus on the executing managers and tend to overlook the role of other stakeholders. Since in the project management context, the role of contractors and clients are equally important, the two groups of stakeholders need to be studied in separate inquiries. This study attempts to address the three research opportunities.

This study promises two significant contributions. From an academic perspective, this study provides a pioneering exploratory work as a basis of further studies which attempt to understand the actual perceptions of risk and the behavior of project practitioners under risky situation. In this sense, the work would contribute to the more general body of knowledge of the actual behavior of people working under uncertain circumstances—i.e. a knowledge advancement under the descriptive decision theory paradigm (Bazerman, 1998). From a practical perspective, this study provides some descriptive evidence on how project practitioners perceive risks and the risky behavior under uncertain circumstances. Scholars could then be aware of the gaps and could consider the gaps when developing new tools and methods in risk analysis which are closer to the practitioners' belief and extant practices. With that, a less resistance towards implementation of the proposed methods/tools could be expected. From the practitioners' point of view, the identified gaps could highlight the importance of enriching their perspective towards risk with the pertinent risk-related, normative (rational) theories. In short, the gaps could be reduced from both sides.

To provide a more insightful analysis, elaboration on the findings from the perspectives of construction contractors and clients of this study is juxtaposed to those in past key studies which are earlier mentioned and the relevant, prominent, normative (rational) theories whenever possible. The Von Neumann and Morgenstern's Utility Theory, or VMUT, becomes the main rational theory to which the empirical findings are gauged against, due to its "most general and popular description of rational choice in the mathematical and behavioral sciences" (Hastie and Dawes, 2001 p. 237).

## 2. Research method

The approach to the study was exploratory, an empirical method capable to provide initial knowledge for a relatively

new area of study (Babbie, 1990). The method of inquiry used was two separate empirical studies of cross-sectional surveys to inquire pertinent information from Indonesian project stakeholders of construction contractors and clients, respectively. Due to the difficulty to identify the sample frame and for practical reasons, a convenience sampling was utilized. These techniques tend to be cost effective and time-efficient but may give some biased results.

Survey instruments were developed by administering three activities. Firstly, literature reviews to identify pertinent information to be inquired were carried out. Secondly, questionnaire items were developed. Thirdly, a pilot study to assess face and content validities of the instruments was administered. The finalized instruments along with the cover letter and return envelope were distributed to the targeted respondents by various means, mostly by surface mails or by visiting the respondents in their respective offices. Appendix 1 provides a sample of the survey form.

To improve response rates, anonymity as well as confidentiality of individual responses was highlighted. Moreover, upon request, a summary of the finding would be provided to respondents. The response rate for the Study #1 (contractors) is 38.4% (out of 250) while this for Study #2 (clients) is 69.72% (out of 142). Hence the sample sizes were 96 and 99 for the construction contractors and clients, respectively. The response rates for both studies are considered high since a low response rate is common in studies in the construction domain (Dulaimi and Shan, 2002; Tan, 1995). Hence the results of the studies are arguably useful to reflect Indonesian context despite the convenience sampling utilized on both studies.

Upon completion of the survey, all collected data were coded, cleansed, and double-checked for eliminating procedural errors. A data preparation procedure (Hair et al., 2006) was carried out, including dealing with missing data and identifying possible outliers. Summary of the research method is depicted in Table 1.

## 3. Results and discussions

### 3.1. Profile of respondents

The two studies target respondents who worked in the construction industry (either on the contractor or client side) and have substantial roles in project-related risky decision making. In order to determine whether the respondents meet the criteria, respondents are given questions to identify their job profiles.

Table 1  
Research method.

	Study #1	Study #2
<i>Respondents</i>	Contractors	Clients
<i>Method of inquiry</i>	Cross-sectional survey	Cross-sectional survey
<i>Sampling method</i>	Convenience sampling	Convenience sampling
<i>Response rate</i>	38.4% (out of 250)	69.7% (out of 142)
<i>Sample size, n</i>	96	99

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