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## A Post Publication Review of “IS Project Risks as Emergent Phenomena: Towards a Model of Risk Escalation and its Management”

Michael J. Cuellar

*Georgia Southern University*, [mcuellar@georgiasouthern.edu](mailto:mcuellar@georgiasouthern.edu)

Nipon Parinyavuttichai

*Rajabhat Rajanagarindra University*

Angela Y. Lin

*University of Sheffield*

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## Post Publication Review

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### Review

This paper seeks to advance project risk analysis beyond what it terms a static risk factor analysis into a process that deals with risks that emerge as the project progresses. The authors analyse the escalation literature and a case study of a system implementation and provide a model of how they believe risk escalation occurs.

While I found the concept of the paper interesting, it ultimately disappoints. The main issue with this paper is that it confounds the concept of risk factors and issues, which causes its analysis to be skewed, and compromises its contribution. In terms of the model, it is based on an outdated typology of project risk and some of the logic involved is questionable.

They define risks as "... the uncertainties that prevent a project team from delivering a planned system on time and within budget." (p. 1). This definition is in line with the standard definitions that we see in the literature. E.g. as Barki, Rivard, Talbot (1993) observe "... many definitions of risk comprise two dimensions: (1) the probability associated with an undesirable event and (2) the consequences ... of this event occurring" (pp. 204-205). See also, Parker and Stanworth (2005), Schmidt, Lyytinen, Keil and Cule (2001), Wallace, Keil and Rai (2004). The key point is that the concept of a risk factor deals with adverse events that have not yet occurred. This is a crucial distinction; once a risk event occurs it is no longer a risk factor but rather an issue or a problem that must be resolved.

This definition while seemingly insignificant is a key importance. In the rest of the paper, what is seen is not risk factor analysis but rather what they call "pragmatic" responses to issues. There is no evidence that risk factor analysis resulting in response strategies to risk events has ever occurred in this project. Thus when they discuss "emergent risks" what they are really discussing is issues or problems in the project. This has a key impact on the validity of their analysis.

Their confounding of risk and issues is seen throughout the paper. They state: "IS project risks may emerge during a project as a result of unexpected factors; either within the project (e.g. changes in users' expectations of a system or a change of project champion), or within the environment of the project." (p. 2). Correctly stated, it might say, "potential risk factors can become obvious" or "project issues emerge." Similarly, section 5 begins "This section develops an explanation of how the risks identified and managed contributed not to their alleviation but their escalation" (p. 10). It should read, "... how issues identified..." The confounding of risk factors and issues is further illustrated when the situations addressed by the project manager are called "problems" (p. 10). In the focal case, there is no discussion in the findings of how the risk factors were managed in the focal case. They do not discuss if there was any risk analysis or response planning. There is much discussion of how issues were handled or the processes used by the team to address issues.

Instead of risk management, what we have is the response of the project manager to the problems that occurred in the project and the unfortunate decisions he made that exacerbated existing problems or created new ones. While they organize the discussion around the various categories of risks to project success, the discussion is about issues that occurred. The paper seems to try to place the blame on risk factor analysis for the escalation of the problems when in fact they are the result of bad project management decision-making in the handling of issues.

The problems related to confounding risks and issues cannot be resolved simply by replacing the word "risk" with "issue." To do so makes the motivation of the paper illogical since it talks about the deficiencies of risk factor analysis. It also removes the contribution of the paper in

which they describe a proposed model of risk (issue?) escalation. By confounding risks with issues, they have invalidated the model that they develop in section 5. What is actually occurring is that the “pragmatic” responses to issues has resulted in the escalation of the issues to an issue that is more critical.

The proposed model also has problems. First, the literature review on escalation on which the model is based is somewhat outdated. While Keil 1995 is a good base, there are more recent papers that form a new stream dealing with communications related issues (e.g. Mum and Deaf Effect or message distortion) as a cause of escalation (See Cuellar 2009 Ch 2 especially for a review up to date as of 2009; Cuellar et al. 2006; Lee et al. 2014; Morrison and Milliken 2000; Park et al. 2009; Smith et al. 2001; Tan et al. 2003; Tourish and Robson 2006). Some of these papers were cited in the paper, and included in table 3 as psychological issues. Now while there is a psychological basis for these issues, they are more precisely classified as communications failures in the project. This new stream would need to be identified in the model. Second, the evidence of project escalation is missing from the findings. It is discussed in section 5, but the proof that it occurred is missing from section 4. Third, I’m not sure that the evidence shows the project escalation causes risk (issue?) escalation. It seems to me that the evidence shows that issue escalation leads to project escalation. Finally, the model does not seem to be clear on how the antecedent factors, the management actions and the escalation factors are related. While an attempt has been made in table 3, the logical inference is not convincing that the risk areas cause the escalation factors, which cause the management response. For example, staff shortages and an unrealistic schedule are not causal factors of the Mum Effect (Park et al. 2009; Smith and Keil 2003; Tan et al. 2003).

The evolution of risk over time in a project and how project responses affect the project risk profile are important understudied areas. It is unfortunate that this paper does not address them adequately.

### **Michael Cuellar**

Georgia Southern University  
mcuellar@georgiasouthern.edu

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## Author Response

We would like to thank the reviewer for not only taking interest in our paper but also spending time on giving us valuable feedback. The reviewer pointed out that the paper has confounded risk factors and issues and argued that the two, risk factors and issues, should be differentiated in the analysis and discussion. According to the reviewer "the concept of a risk factor deals with adverse events that have not yet occurred" while "once a risk event occurs it is no longer a risk factor but an issue or problem that must be resolved". We agree that the importance of such distinction as it has implications for our arguments and analysis. We want to point out that there are two types of risk factors: perceived and unperceivable risk factors (PMI, 2004 and 2013); the former refers to those risks that can be known and anticipated by a project team while the latter refers to those that cannot be known or identified prior to the occurrence of such risks. If a risk factor is defined as uncertainty that an event may bring to a project then we can argue that an issue/problem (once a risk factor occurs) and even solution that is designed to solve the issue/problem in itself can potentially be a risk factor. It is assumed that risks can be eliminated if they can be identified in advance and contingency plans are in place nevertheless depending on the situations the contingency plans which are planned in advance can potentially introduce more risks (uncertainties) into the project. The paper is interested in the unperceivable risk factors and uncertainties that brought by a project team's intentions of trying to manage the issues/problems and responding to unperceivable risks during the project. We agree with the reviewer that we need to make clearer distinction between risk factors and issue/problems in our writing.

In this case study we observed that very little effort was put into risk identification and analysis prior to and during the project. This is mostly due to the lack of experience on the management part. We saw that most actions and decisions taken by the project managers and team were the results of pragmatic responses to issues/problems, and these responses induce more uncertainties further down the line in the project. The paper does not argue that risk factor analysis or lack of it was the cause for the escalation of the problems rather the paper intends to argue that the act of 'managing' (e.g. issue/problem) is indeed a source of further risks. Pragmatic responses, which usually are knee-jerk reactions and lack of holistic view, can escalate the situation from bad to worse. Situation here refers to more uncertainties.

We are aware that in some projects communication failures are the sources of risk factors. The paper discussed Requirement risks (misunderstanding requirements, partial understanding requirements) under the heading of psychological factor. Yes, the requirement risks can easily be discussed under the heading of 'communication' but the paper regards that the uncertainties caused by requirements are due to information framing and processing bias rather than

communication or miscommunication in this case study. We argue that how a system and problem is framed and communicated depends on information framing and processing bias. Therefore in order to understand why particular actions were taken we need to understand how the system and problem was framed and processed. In the case study we observed that there was 'lack of communication' between project manager and system analyst and among project team members. We discussed this under the heading of psychological factor because we considered that the lack of communication is an outcome rather than a cause. For example not reporting to the manager the progress of the project was interpreted as a deliberate act by system analyst for personal reason (e.g. personal ego); and the manager tolerated this behaviour because he did not want to upset the relationship by confronting with the system analyst.

The reviewer pointed out that "the evidence of project escalation is missing from the findings. It is discussed in section 5 but the proof that it occurred is missing from section 4." Section 4 focuses on the risk factors which are induced by decisions taken to manage the issues/problems encountered and/or induce further uncertainties in the project. Section 5 examines the impacts of these risk factors in a broader context: a project as a whole. We structure the writing in this way so that project escalation can be understood as a process as well as a result of a number of risk occurrences. In so doing we avoid placing the blame on any single risk factor that cause project escalation.

We believe that escalation factors are closely linked to the management actions because the decisions taken are informed by the management's perception of the issue/problem and expectation of what would happen and bounded by the context e.g. structural and social. The outcomes of their actions can re-enforce particular or contribute other escalation factors. We also believe that their decisions whether they are well informed or not to extent bear risks/uncertainties.

We acknowledge the critique that the paper requires some clarifications and improvements. We will incorporate the feedback and acknowledge it in our future work.

**Nipon Parinyavuttichai**  
Rajabhat Rajanagarindra University  
nparinya@gmail.com

**Angela Y. Lin**  
The University of Sheffield  
A.Lin@Sheffield.ac.uk

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