ABSTRACT

Title: **Human Factors in Construction Project Risk Management**

Sub-title: **An Investigation into the Effects of the Inherent Human Factors Which Impact the Process of Construction Project Risk Management**

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Purpose: The principle objectives and scope of this investigation are to identify and evaluate current approaches to risk management and to highlight the influence of the human factors which affect its implementation. This includes factors which influence an individual's risk perception, risk attitude, risk tolerance and so on. It is anticipated that the highlighting of these factors will lead to an increase in awareness. Moreover the findings and recommendations will offer individuals, organizations and the industry in general the potential to enhance and maximize the effectiveness of risk management by better control and management of the inherent human factors. The continuously high number of construction projects which suffer time and/or cost overruns due to poor risk management practices has warranted this investigation.

Methodology: A comprehensive literature review provides a summary of the major concepts, debates, issues and arguments related to risk management and the inherent human factors. Primary research consisted of semi-structured face-to-face interviews which were recorded and transcribed. The participants for these interviews were project managers/construction practitioners in Ireland who are responsible for implementing risk management on a construction project and who had the expertise to contribute to this study. These participants came from a variety of different project levels i.e. client, contractor, and director level.

Findings: This research found that there are numerous issues with the current approach to risk management as well as mixed feelings on whether the approach takes into account or considers the effects of 'human factors'. Practitioners affirm that human factors such as lack of education and training, ignorance, denial and avoidance are the main common barriers which result in a failure to avail of the benefits of risk management. There is a gap between theory and practice in risk management techniques and projects have been managed as technical systems instead of behavioural systems. Human factors are universal and inevitable and they are unequivocally the single most important element that can impact and affect project success. However, the project management discipline still appears to place greater emphasis on hard skills at the expense of the softer human skills. A number of recommendations are presented which if acted upon have the potential to greatly improve the process of construction project risk management. These include: having competent and responsible personnel; having defined roles and responsibilities; education of biases and psychological traps; good communication and teamwork; continuous training; good governances and a framework for the project from the outset; the creation of a risk manual; a checklist which embraces the Pareto Principle; benchmarking; picking 5-10 key issues that are unique on each scheme and feeding back into the organization; using a scoring approach in risk analysis; having a breakdown or coding system; possible use of a knowledge management system to share information; removal of biases and prejudices at a higher level. The study also recommends that future research could look at combining prescriptive and behavioural models in the modelling, assessment and management of risks. Further studies focussing on the behavioural aspects of project management, including how to prepare people to cope with stress involved in unexpected events are also suggested.

Keywords: construction, human risk factors, project management, risk analysis, risk management