

**Risks of Non-Performing Mitigation Actions for Contractual Risks
by Contractors in Sri Lanka with Reference to International Forms
of Contract**

Kalinga Pradeep Wijesinghe

(189578X)

Dissertation submitted in partial fulfilment of the requirement for the degree
Degree of Master of Science in Construction Law and Dispute Resolution

Department of Building Economics

University of Moratuwa

Sri Lanka

March 2024

Declaration

I declare that is my own work and this dissertation does not incorporate without acknowledgment any material previously submitted for a degree or Diploma in any other university or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgment is made in the text.

Further, I acknowledge the intellectual contribution of my research supervisor, Dr. Kapila Devapriya for the successful completion of this research dissertation. I affirm that I will not make any publication from this research without the name of my research as contributing author unless otherwise, I have obtained written consent from my research supervisor.

Also, I hereby grant to the University of Moratuwa the non-exclusive right to reproduce and distribute my dissertation, in whole or part of it in print, electronic, or another medium. I retain the right to use this content in whole or part in future works (such as articles or books).

.....

.....

K. P. Wijesinghe

Date

The Supervisor should certify the dissertation with the following declaration.

The above candidate has carried out research for the dissertation under my supervision.

.....

Dr. Kapila Devapriya

Dissertation Supervisor

Dedication

“Tireless effort of this dissertation is a replication of my enthusiasm, hard work, and self-belief.

I dedicate it to my beloved family for replenishing it in me during the hard times, and my batch mates for being my pillars of support.”

Acknowledgement

“This page is dedicated to those who stood beside me and helped me succeed in accomplishing this dissertation”

First of all, I wish to thank Dr. Kapila Devapriya, for his assistance as dissertation coordinator and his guidance and support as my supervisor. It is his valuable thoughts and constructive criticisms that led me to succeed in this journey of research and produce a gem of a report.

My sincere gratitude to Ch.QS. Prof. (Mrs.) Anuradha Waidyasekara, Head of the Department of Building Economics, and the academic staff of the department for their teachings, advice, and guidance throughout my university career, and dissertation period in particular.

This acknowledgment is also shared by interviewees and Construction industry professionals who assisted in numerous ways in collecting data for this research. My ultimate words of thanks belong to my family members, lecturers, colleagues, finds, and well-wishers who kept me live and encouraged me till the last leap of this endeavor.

K. P. Wijesinghe

March, 2024

ABSTRACT

Contractual risks are common in the construction industry and can result in significant losses for the parties involved. To mitigate these risks, international forms of contract such as the FIDIC 1999 have been developed. However, the effectiveness of these contracts depends on the implementation of the mitigation actions by the contractors. Therefore, this research aims to identify the non-performing mitigation actions for contractual risks by contractors in Sri Lanka with reference to the FIDIC 1999. The research conducted an evaluation of contractual risks using the Risk Impact Index (RII), providing an overview of the level of contractual risks involved. The study identified the top 20 risks with the highest impact when considering all subclasses together, which were further analyzed in subsequent subsections. These selected highly impactful risks were examined not only for mitigation procedures but also for the risks associated with non-compliance with these procedures, as outlined in the guidelines.

The RII methodology, which incorporates the likelihood and severity of each risk, was utilized to calculate the impact of these risks. Those with the highest RII scores have the potential to exert the greatest impact on the project. These risks encompass various aspects of construction projects, including legislative changes, time and cost extensions, payment issues, force majeure events, defects notification periods, suspensions, terminations, and dispute resolution. Project managers and stakeholders are urged to identify and assess these risks to formulate effective risk management strategies aimed at minimizing their impact on project success. Addressing these risks proactively can mitigate delays, cost overruns, and disputes, ultimately enhancing project outcomes. It is important to recognize that while this table offers valuable insights, it alone cannot provide a comprehensive risk assessment of the project. Other factors, such as project context, team experience, and overall project management approach, should also be considered. Contractual risk mitigating procedures were derived and listed from the literature findings, and prioritized contractual risks were identified based on sub-clauses. The risk of non-compliance with mitigation procedures was further evaluated based on responses from construction industry professionals. A guideline was developed based on the overall inputs and data received from respondents, with efforts made to summarize responses to minimize complexity.

Keywords: *Contractual risks, Contractors, FIDIC 1999, Risk register, Qualitative analysis, Mitigating procedures, Risk impact, Likelihood, Severity, Construction industry*

Table of Contents

Declaration.....	i
Acknowledgement	iii
ABSTRACT	iv
LIST OF TABLES.....	ix
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
CHAPTER ONE.....	1
1 INTRODUCTION	1
1.1 Background of the Study	1
1.2 Problem Statement.....	5
1.3 Aim & Objectives	5
1.4 Methodology	6
1.5 Scope of Limitation.....	6
CHAPTER TWO.....	7
2 LITREATURE REVIEW	7
2.1 Introduction.....	7
2.2 Risks in the Sri Lankan Construction Industry	7
2.3 Causes of Risks in the Sri Lankan Construction Industry	9
2.4 Types of Risk in Sri Lankan Construction Projects.....	10
2.5 External Risks in Construction	12

2.6	Internal Risks in Construction	12
2.7	Contractual Risks for the Contractors	13
2.8	Types of Contractual Risks	15
2.8.1	Standard Forms of Contract Regarding Contractual Risks in Sri Lanka	15
2.8.2	Effects of Contractual Risks for the Contractors	17
2.9	Process of Risk Management in Construction	18
2.9.1	Risk Identification.....	19
2.9.2	Risk Analysis	20
2.9.3	Risk Prioritising	21
2.9.4	Risk Treating.....	22
2.9.5	Risk Monitoring	23
2.10	Tools and Techniques in the Risk Management Process.....	23
2.10.1	Risk Register	24
2.10.2	Qualitative Risk Analysis	25
2.11	Significance of Risk Mitigation in Avoiding Contractual Risks for Contractors	26
2.12	Summary	28
CHAPTER THREE		29
3	RESEARCH METHODOLOGY	29
3.1	Introduction.....	29
3.2	Research Design.....	29

3.3	Research Process.....	30
3.4	Research Approach	31
3.4.1	Quantitative approach	31
3.4.2	Qualitative approach	31
3.4.3	Mixed approach	31
3.4.4	Selection of research approach	31
3.5	Research Techniques	32
3.5.1	Data collection techniques	33
3.5.2	Data analysis techniques	35
3.6	Summary	36
	CHAPTER FOUR	37
4	DATA ANALYSIS AND FINDINGS	37
4.1	Chapter Introduction	37
4.2	Document review	37
4.3	Questionnaire Survey.....	46
4.3.1	Profile of Survey Participants	46
4.3.2	Evaluation of contractual risk	48
4.4	Semi-Structured Interviews	55
4.4.1	Interviewee profile	55
4.4.2	Contractual risk mitigating procedure	56

4.4.3 Risk of not following mitigating procedure.....	79
4.5 Discussion	82
4.5.1 Prioritize risk by evaluating risk impact using qualitative analysis, finding out likelihood and severity.....	82
4.5.2 Mitigating procedures for identified prioritized risk and their applicability in building contractors in Sri Lanka	83
CHAPTER FIVE	85
5 CONCLUSION AND RECCOMENDATIONS	85
5.1 Introduction.....	85
5.2 Conclusions.....	85
5.3 Recommendations.....	88
5.4 Limitations	89
5.5 Further Research Area	89
6 REFERENCES	90
APPENDIX A: QUESTIONNAIRE	101
APPENDIX B: SEMI-STRUCTURED INTERVIEW	109

LIST OF TABLES

Table 4-1: Risk register	38
Table 4-2: Contractual risk evaluation table	48
Table 4-3: Contractual risks prioritize table.....	54
Table 4-4: Contractual risk mitigating procedure	56
Table 4-5: Risk of not following mitigating procedure	79

LIST OF FIGURES

Figure 2-1: Hierarchical representation of the types of risks in a construction project ...	11
Figure 2-2; Stakeholder arrangements of traditional contracts (left) and design-build contracts (right)	14
Figure 3-1: Research Design.....	30
Figure 4-1: Categories of Professions of Respondents	46
Figure 4-2: Years of Experience of Respondents	47

LIST OF ABBREVIATIONS

BIM	Building Information Modelling
COVID	Corona Virus Disease
FIDIC	Federation Internationale Des Ingenious Conseils
ICTAD	Institute of Construction Training and Development
JCT	Joint Contract Tribunal
LOA	Letter Of Acceptance
NEC	New Engineering Contract
RII	Relative Importance Index
SBD	Standard Bidding Document