

1. Record Nr.	UNINA9910795826803321
Autore	Smith Nigel J
Titolo	Managing Risk in Construction Projects
Pubbl/distr/stampa	Hoboken : , : John Wiley & Sons, Incorporated, , 2014 ©2014
ISBN	9781118347218 9781118347232
Edizione	[3rd ed.]
Descrizione fisica	1 online resource (254 pages)
Altri autori (Persone)	MernaTony JoblingPaul
Disciplina	690/.22
Soggetti	Building -- Superintendence Building -- Safety measures Construction industry -- Management Risk assessment Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- Preface -- Authors' Biographies -- Acknowledgements -- Chapter 1 Projects and Risk -- 1.1 Construction projects -- 1.2 Decision making -- 1.3 Risk management strategy -- 1.4 Project planning -- 1.5 Summary -- Chapter 2 The Project Environment -- 2.1 Projects -- 2.2 The project constitution -- 2.3 Project organisation -- Single discipline projects -- Multidiscipline projects -- 2.4 Project phases -- 2.5 Effect of project phase on risk -- 2.6 Project appraisal -- 2.7 Summary -- Chapter 3 Understanding the Human Aspects -- 3.1 Risk management-context -- 3.2 Risk management-organisations -- 3.3 The risk management process -- 3.4 Some guidelines to the risk management process -- 3.5 The risk workshop -- Preparation -- Warm up exercise 1 -- Warm up exercise 2 -- Risk identification -- Quantification -- 3.6 Communication -- 3.7 Summary -- Reference -- Chapter 4 Qualitative Methods and Soft Systems Methodology -- 4.1 Qualitative risk assessment -- 4.2 Review of project programmes and budgets -- 4.3 The risk log -- 4.4 Using a risk log to formulate risk management

strategy -- 4.5 Qualitative methods -- 4.6 Soft systems methodology  
 -- 4.7 Case study: SSM in use in the procurement of construction  
 projects -- Technical and environmental -- Commercial and  
 operational -- Root definitions -- Root definition 1: procurement of  
 microtunnelling projects -- Root definition 2: payment of contractors  
 -- Root definition 3: management of construction risk -- Root  
 definition 4: operation of construction plant -- Proposed risk allocation  
 strategy -- 4.8 Summary -- Chapter 5 Risk and Value Management --  
 5.1 Introduction -- 5.2 Approaches to the management of risk --  
 Informal approach to the management of risk -- Formal approach to  
 the management of risk -- Qualitative risk assessment -- Quantitative  
 risk assessment.  
 5.3 The standard risk management model -- 5.4 Applying risk and  
 value management -- 5.5 Value management processes -- Value  
 identification -- Value planning -- 5.6 Understanding the project risk  
 -- Risk identification -- Risk analysis -- Sensitivity analysis -- Scenario  
 analysis -- Probability analysis -- Probability sensitivity analysis --  
 Probability impact -- Priority -- Risk evaluation -- Economic  
 parameters -- Iso-risk curves -- 5.7 Applying value and risk  
 management -- Identification of options -- Analysis of options --  
 Evaluation of the options: the VFM assessment -- 5.8 Iteration of the  
 process -- 5.9 Summary -- References -- Chapter 6 Quantitative  
 Methods for Risk Analysis -- 6.1 Sanction -- 6.2 Project appraisal and  
 selection -- Programme -- Risk and uncertainty -- 6.3 Project  
 evaluation -- Cost-benefit analysis -- 6.4 Engineering risks -- 6.5 Risk  
 management -- Risk reduction -- Contingencies -- The role of people  
 -- 6.6 Probabilistic analysis -- Monte Carlo technique -- 6.7 Response  
 to risks -- 6.8 Successful risk management -- 6.9 Principles of  
 contingency fund estimation -- Appendix 6.A: Alternative methods of  
 risk analysis -- Portfolio theory -- Delphi method -- Influence  
 diagrams -- Decision trees -- Latin HyperCube sampling -- Chapter 7  
 The Contribution of Information Technology to Risk Modelling and  
 Simulation -- 7.1 Purpose of RMS -- 7.2 When to use RMS -- 7.3  
 Requirements of the analyst -- 7.4 Modelling and simulation -- 7.5  
 Modelling using RMS -- 7.6 Data management -- 7.7 Analytical  
 mechanisms -- 7.8 Classification of RMS -- 7.9 Selection of RMS --  
 7.10 Modelling a project for risk management -- Advantages --  
 Limitations -- 7.11 Data requirements for realistic modelling --  
 Inflation rate -- Interest rate -- Discount rate -- Exchange rate -- 7.12  
 Choice of variable distribution -- 7.13 Case study -- Modelling -- Risk  
 variables.  
 7.14 Case study simulations -- Discount rate -- Inflation rate --  
 Finance charge -- Sensitivity analysis -- Probability analysis --  
 Sanction risks -- Commissioning risks -- 7.15 Analysis of the result --  
 Discount rate -- Inflation rate -- Finance charge -- Sensitivity analyses  
 -- Sanction risks -- Commissioning risks -- Probability analyses --  
 Sanction risks -- Commissioning risks -- 7.16 Discussion of findings  
 -- 7.17 Summary -- Chapter 8 Risk Allocation in the Contracting and  
 Procurement Cycle -- 8.1 Typical contracting and procurement  
 processes -- 8.2 Value planning case study -- 8.3 Known and  
 unknown risks in contracts -- 8.4 Risk allocation strategies --  
 Conventional approach -- Cost-based reimbursable approach --  
 Management contracting approach -- Fast-track approach -- Turnkey  
 / package deal approach -- Framework agreements -- Partnering --  
 Alliances -- 8.5 Risk allocation according to payment mechanism --  
 Lump sum or fixed price -- Admeasure -- Cost reimbursable and  
 target cost -- 8.6 Contract award -- 8.7 Summary -- Reference --  
 Chapter 9 Managing Financial Risks in Major Construction and PFI / PPP

Projects -- 9.1 Project financing -- 9.2 Types of finance -- 9.3 Appraisal and validity of financing projects -- 9.4 Typical financial risks -- 9.5 Promoter -- Promoter-lender: debt financing contract -- Promoter-investor: equity financing contract -- 9.6 Financial risk in concession contracts -- 9.7 Global and elemental risks in concession contracts -- Global risks and elemental risks -- 9.8 Summary -- Chapter 10 Risks in International Construction Project Joint Ventures -- 10.1 Background -- 10.2 Concept of joint venture -- 10.3 Motives for joint venture formation -- 10.4 Assessing joint venture success -- Critical success factor influencing joint ventures -- Evaluating joint venture success -- 10.5 Case study -- Country risk assessment. Contract with client -- Party risks -- JV risk assessment -- Due diligence -- 10.6 Summary -- Acknowledgement -- References -- Chapter 11 Risk Management at Corporate, Strategic Business Unit and Project Levels -- 11.1 Risk in organisations -- 11.2 Risk management -- 11.3 The risk management process -- 11.4 Benefits of risk management -- 11.5 Recognising risks -- 11.6 Why risk management is used -- 11.7 Risk management actions at different levels -- 11.8 Summary -- References -- Chapter 12 Case Studies -- 12.1 Introduction -- 12.2 Heavy lift vessel design and fabrication programme risk assessment -- Introduction -- Main objective -- Project key data -- Project duration -- Limitations -- 12.3 Risk identification -- Risk analysis -- The schedule -- Conclusion -- 12.4 High Speed 1 -- 12.5 Brief history of HS1 -- Programme and constraints -- 12.6 The risk management process -- Risk identification -- Project-wide risks -- Advanced and enabling works -- St Pancras terminus -- Tunnels -- Route sections (excluding tunnels) -- Intermediate stations -- Mechanical and electrical equipment, including signaling -- 12.7 Risk assessment, analysis and response -- The procurement strategy -- Risk modelling -- Programme risk models -- The cost model -- 12.8 Summary of the preliminary schedule risk analysis results -- The final cost model -- Chapter 13 Risk Management in a Multi-Project Environment -- 13.1 Introduction -- 13.2 Drivers for the multi-project approach to project delivery -- 13.3 A conceptual model of the multi-project environment -- 13.4 Risks that are unique to or amplified in multi-project environments -- 13.5 The change in mindset required to manage risk in multi-project environments -- 13.6 Summary -- References -- Further reading -- Chapter 14 Key Issues and Guidance in Practical Risk Management -- 14.1 Decision making. 14.2 Preparation for risk management -- 14.3 Risk management process -- Identification -- Risk analysis -- Risk outputs -- 14.4 Models -- 14.5 Uncertainty -- 14.6 Socio-technical approach to risk -- 14.7 Summary -- References -- Index.

---

## Sommario/riassunto

Investment in any new project invariably carries risk but the construction industry is subject to more risk and uncertainty than perhaps any other industry. This guide for construction managers, project managers and quantity surveyors as well as for students shows how the risk management process improves decision-making. Managing Risk in Construction Projects offers practical guidance on identifying, assessing and managing risk and provides a sound basis for effective decision-making in conditions of uncertainty. The book focuses on theoretical aspects of risk management but also clarifies procedures for undertaking and utilising decisions. This blend of theory and practice is the real message of the book and, with a strong authorship team of practitioners and leading academics, the book provides an authoritative guide for practitioners having to manage real projects. It discusses a number of general concepts, including

projects, project phases, and risk attitude before introducing various risk management techniques. This third edition has been extended to recognize the reality of multi-project or programme management and the risks in this context; to highlight the particular problems of risk in international joint ventures; and to provide more coverage of PFI and PPP. With case studies and examples of good practice, the book offers the distilled knowledge of over 100 man-years of experience in working on all aspects of project risk, giving sound practical guidance on identifying, assessing and managing risk.

---