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3.7 Decisions at the end of economic life stage3.8 Summary; References; 4 Fundamentals of Whole Life-cycle Cost Analysis; 4.1 Introduction; 4.2 Concepts of the time value of money; 4.3 WLCC calculation models; 4.4 Measuring economic performance in whole life-cycle costing; 4.5 WLCC forecasting methods; 4.6 Benchmarking and key performance indicators; 4.7 WLCC key performance indicators; 4.8 Summary; References; 5 Whole Life Risk Analysis Techniques; 5.1 Introduction; 5.2 Risk analysis; 5.3 Qualitative risk analysis; 5.4 Risk matrices; 5.5 Risk registers; 5.6 Event trees
5.7 Influence diagrams5.8 SWOT analysis; 5.9 Brainstorming sessions; 5.10 Quantitative risk analysis; 5.11 Probabilistic approaches to risk; 5.12 Simulation; 5.13 Sensitivity analysis; 5.14 Markov theory; 5.15 Deterministic measures of risk; 5.16 Mathematical and analytical techniques; 5.17 Artificial intelligence and fuzzy set theory; 5.18 Summary; References; Part II: Whole Life-cycle Costing: The Design Stage; 6 Design Service Life Planning; 6.1 Introduction; 6.2 Estimation of service life for new structures; 6.3 Estimation of the remaining service life for existing structures; 6.4 Summary
References7 Design Environmental Life-cycle Assessment; 7.1 Introduction; 7.2 Life-cycle assessment; 7.3 Life-cycle assessment for design optimisation; 7.4 LCA tools; 7.5 Environmental life-cycle cost; 7.6 Case study; 7.7 Summary; Reference; 8 Whole Life-cycle Cost Planning at the Design Stage; 8.1 Introduction; 8.2 Design whole life-cycle cost planning; 8.3 An integrated framework for WLC budget estimation; 8.4 Benchmarking WLC budgets; 8.5 Whole life cost planning; 8.6 Summary; References; 9 Whole Life Risk and Risk Responses at Design Stage; 9.1 Introduction; 9.2 Design whole life risk 9.3 WLC risk identification and risk response measures at design/precontract stages

Sommario/riassunto

With its mixture of established theory, best practice and innovation Whole-life costing: risk and risk responses offers a thorough grounding in both the theory and practical application of WLCC. It will help to improve accuracy of the assessments of long-term effectiveness of projects - now an essential tool for those performing risk analysis in construction investment.