Modeling Risk Management in Sustainable Construction

Bearbeitet von
Desheng Dash Wu

ISBN 978 3 642 15242 9
Format (B x L): 15,5 x 23,5 cm
Gewicht: 1780 g
## Contents

### Part I  Enterprise Risk Management in Supply Chains

**An Improved Approach for Supplier Selection in Project Material Bidding Procurement** .......................................................... 3  
Maozeng Xu, Qiaoyu Chen, and Ligang Cui

**Modeling the Out-of-Stock Risk and the EOQ–JIT Cost Indifference Point** ............................................................. 11  
Min Wu

**A Partner Selection Method Based on Risk Evaluation Using Fuzzy Soft Set Theory in Supply Chain** ............................................. 19  
Zhi Xiao and Weijie Chen

**A Quantitative Analysis for Degree of Supplier Involvement Under Market Uncertainty** ................................................... 29  
Zi-jian Zhang and Hua Pan

### Part II  Enterprise Risk Management in Construction

**Dynamic Network Planning Simulation for Scheduling Risk Analysis Base on Hybrid System** ............................................. 39  
Lin Yang, Yanlong Zhao, and Yueyue Chen

**Research on the Integrated Risk Management Information System of Construction Project** ................................................... 47  
Yun-li Gao

**Sensitivity Analysis for the Relationship Between Toll Rate and Traffic Volume for Freeway** ................................................... 55  
Lian-yu Wei, Yi Cao, and Pei Chen
The Application of Dynamic Priority of AHP on Operation Risk Assessment of Metro .................................................. 65 Yunhao Gao, Xiuli Du, and Mingju Zhang

Study on Construction Project Bidding Risk Assessment Model .............. 73 Guofeng Wen and Liwen Chen

Study on Prophase Risk Management in Informatization of Chinese Construction Enterprises ........................................ 81 Luo Fu-zhou and Wang La-Yin

Managing Construction Risk in SMEs: The Case of Coastal Construction ................................................................. 91 Hosein Piranfar

A Study on Management Risk Evaluation System of Large-Scale Complex Construction Projects .................................. 103 Linlin Xie and Yu Yang

Risk-Based Determination of the Premium Rate of Construction Work Safety Liability Insurance ........................................ 113 Hongxia Wang, Gui Ye, and Chuanjing Ju

Part III Enterprise Risk Management in Projects

Multi-criteria Decision Model for BOT Project Selection .................. 123 Min-Ren Yan

Equitable Risk Allocation in Chinese Public–Private Partnership Power Projects ......................................................... 131 Yongjian Ke, ShouQing Wang, and Albert P.C. Chan

Developing a Construction Safety Management System .................. 139 Jian Zhang and Weng Tat Chan

Analysis of the Equipment’s Maintenance Period Under Different Operation Stages .............................................. 145 Jie Chi and Miao Chi

An Evolutionary Game Model for the Risk Management Cooperation Among the Project Participants .......................... 153 Guo-jun Zhang and Yun-li Gao
Application of Industrialized Housing System in China: A Chongqing Study .......................... 161
Yuhong Pan, Francis K.W. Wong, and Eddie C.M. Hui

Part IV Energy Risk Management

The Study on Energy Consumption and Pollutant Emission of Civil Vehicles in Beijing .................................................. 171
Li-xiang Zhao, Yi-long Xiong, and Fei Ye

An Investigation of the Coal Demand in China Based on Variable Weight Combination Forecasting Model .......................... 181
Guohao Zhao, Shufen Guo, Jing Shentu, and Yongguang Wang

Investment Cost Analysis for Key Industries of New Energy Based on Boston Experience Curve .......................... 191
Yuanying Chi, Benkun Chi, Xiangyang Li, and Dongxiao Niu

Part V Environmental Risk Management

Green Adaptive Reuse: Issues and Strategies for the Built Environment ................................................................. 199
Craig Langston

Risk Assessment of Regional Industrial Clusters .......................... 211
Yongheng Fang and Zhouping Jia

Subway System Safety Risk Analysis Based on Bayesian Network ...... 219
Ying Lu, Qiming Li, and Jimmie Hinze

Eco-Efficiency Assessment for the Eco-Industrial Park Based on the Emergy Analysis .......................................................... 229
Hua Shang and Jiabo Li

The Study of Green Risk Assessment for Construction Project Based on “AHP–FCE” Method .................................................. 237
Danfeng Xie, Shurong Guo, and Sulei Li

Intensive Land Use Evaluation of Urban Development Zones: A Case Study of Xi’an National Hi-Tech Industrial Development Zone in China ................................................................. 245
Wei Xiao and Qingqi Wei
Industrial Planning, Macro-economic Control and Government’s Role in the Perspective of Economic Crisis ........................................ 251
Bo Cao and Yang Yu

Evaluation and Simulation for Ecology Risk of Urban Expansion Based on SERA Model ....................................................... 259
Xiaoxia Shi, Yue Wu, and Han Zhang

Part VI Financial Risk

The Gerber–Shiu Discounted Penalty Function for the Credit Risk Model with Dependent Rates of Interest ........................................ 269
Dan Peng and Zaiming Liu

A Risk-Sensitivity Analysis on NPV Model of Investment Projects …… 277
Xiansheng Qin, Xuyao Ma, and Hongwei Bai

Research on Appraisal of High-Tech Entrepreneurial Risk Based on Osculating Value Method .............................................. 283
Yan-Rong Wang and Qiao-Ling Xu

An Approach to Overseas Iron Ore Investment Risk Assessment Based on Fuzzy Neural Network .............................................. 293
Li Guo, Caiwu Lu, and Zhen Yang

Analysis on Structure Risk and Its Countermeasures of International Trade Corridor in Inland China ........................................ 301
Xiao-dong Xie, Mao-zeng Xu, Shun-yong Li, and Li Huang

Part VII Sustainable Risk Management Tools

Asphalt Pavement Surface Penetrate Rejuvenate Restore Technology: Application and Evaluation ........................................... 313
Xiaohong Guo and Bangyin Liu

A Study of Construction Project Conflict Management Based on Evolutionary Game Theory ................................................ 321
Jie Ding

Study on the Management Mechanism of Emergency Telecommunication in China ......................................................... 327
Zhenyu Jin, Xiaoyu Wan, and Xingming Yang
Forewarning for Urban Sustainable Development Based on Fuzzy Matter Element Model: Taking Nan Tong City for Example ................................................................. 335
Wen-jin Zhang and De-shan Tang

Resident Population Prediction Based on Cohort-Component Method ................................................................. 343
Biyu Lv, Jiantong Zhang, and Hong He

Dynamic Monitoring of Land Utilization Security of Mining City ...... 351
Jin-sheng Zhou

Risk Assessment of Water Transportation in Three Gorges Reservoir Through Approaches of System Engineering ................. 363
Dan Zhang, Liwen Huang, and Xiaobiao Fan

Damaged Bridges over Watercourses and Stream Order Flood Analysis ................................................................. 371
Marek Mihola

Part VIII Enterprise Risk Management Modeling

Understanding Commuters’ Daily Travel Time: Application of a Hazard-Based Duration Model ........................................ 379
Zhicai Juan, Jianchuan Xianyu, and Linjie Gao

Influence of Perceived Risk and Service Recovery on On-Line Shopping: A Dynamic Game of Incomplete Information .......... 387
Yong Fang and Fengming Tao

Traffic Risk Assessment of Freeway On-Ramp and Off-Ramp Areas Based on Simulation Analysis ........................................ 395
Ying Yan, Yan-ting Sheng, and Yu-hui Zhang

Probe into the Effectiveness Connotation of Emergency Telecommunication Plan and Its Assessment Method Under Unconventional Emergency ........................................ 407
Xiaoyu Wan, Zhenyu Jin, and Jinying Wei

Risk Assessment of Levee Engineering Based on Triangular Fuzzy Number and Analytic Network Process and Its Application ...... 415
Feng Li, Zong-Kun Li, and Chuan-Bin Yang