Investors and managers of major projects know how often they result in cost overruns and schedule delays. Risk-Navigation Strategies for Major Capital Projects builds on conventional best practice to provide a risk-based view of current practices for planning and executing large international projects. As economies of scale continue to drive projects to ever-higher levels of scope and complexity, new thinking about strategy and risk is required. Major projects are highly exposed to external risks, the traditional view of predictability as something that can be managed is becoming increasingly obsolete, and there is a need for the best practice to meet the challenges of today's world. This book provides a framework for taking project management best practice to the next level. Risk Navigation Strategies for Major Capital Projects is intended for executives using major projects, project leaders and managers, as well as those with a teaching or research interest in project and risk management.

Build Great Apps: End-to-End Processes, Tools, and Management Tips for Doing It Right! Foreword by Kyle Richter, CEO, MartianCraft Today, successful apps are complex software projects. You can't just knock them off in a weekend—and, worse, many common programming habits don't work well in mobile. You need skills, processes, tools, management techniques, and best practices that are honed for mobile platforms and realities. In App Accomplished, top mobile developer Carl Brown provides all that—so you can run your entire project effectively and get the answers you need right now. Whether you’re writing your own code or contracting out, you’ll find hard-won guidance for your entire app development lifecycle. Brown guides you step-by-step through planning and design testing and updates. Through case studies drawn from his immense experience, he reveals why so many app projects fail—and how to avoid the mistakes that detailed them. When it comes to apps, a great idea isn’t enough. You have to execute. This is the first book that shows you how. Understand mobile-specific issues that lead even experienced developers astray. Find developers who can do a great job with your unique app at a fair price Define the requirements you need to create accurate schedules and budgets. Work with developers to get the best possible results. Manage and communicate effectively to avoid cost overruns. Solve problems before they get out of control. Develop wireframes and prototypes that clarify the user’s core experience. Choose app components, from servers to database storage. Select tools for source control, testing, project tracking, and more. Understand how to manage financial and risk factors. Collect critical data about your app. This publication aims to support the efforts of DMCs and policymakers in PPP framework and regulatory reforms along with a well-defined and transparent financial assistance and risk-management framework. It shows how to develop PPP models that are rarely successful - cost overruns routinely occur. There are effective ways to estimate the cost of complex projects from project risks of all types, including traditional cost-type risks and the indirect but often substantial impact from risks usually thought of as affecting project schedules. Integrated cost-schedule risk analysis helps us determine how the project will go over budget with the current plan, how much contingency reserve is required to achieve a desired level of certainty, and which risks are most important so the project manager can make informed decisions. Integrated Cost-Schedule Risk Analysis is based on data collected worldwide and is currently the most advanced study on cost and revenue changes of Olympic Games. It provides solutions for these and cross-cutting challenges of Olympic Games. The ability to quantify risk is essential to the processes of budgeting and scheduling. During the process of hiring to manage projects, it is essential to verify contractor estimates and to make sound judgements on the risks of cost overruns and time delays. The following two questions are central to this paper: Do developers with little experience over-estimate or under-estimate the complexity of the task because of their past experience? The answer they make, the models they select, and how they define the model parameters? What are the sources of risk associated with project cost estimation? How can such risk be quantified? To address these questions, this paper proposes a systematic approach that is aimed at assessing these variables and managing risks associated with cost overruns and time delays associated with software development. The proposed acquisition process, which is composed of four phases (listed below), is focused on the following three basic premises: (a) any single-value estimate of cost or completion time is inadequate to capture and represent the variability and uncertainty associated with cost estimation and schedule. Acquisition process, Risk, Cost overrun.

The Republic of Korea has high experience in implementing public-private partnership (PPP) projects for almost a decade. This experience provides valuable lessons for most developing member countries (DMCs) and that merits wider dissemination. This report prepared by the Korea Development Institute (KDI) presents an in-depth assessment of the different components of PPP framework of the Republic of Korea, including comparing and contrasting the success factors of the Korean PPP model with the experience of other countries through invited presentations on PPP frameworks and multisector case studies. This publication aims to support the efforts of DMCs engaged in the development of appropriate institutional PPP framework and regulatory reforms along with a well-defined and transparent financial assistance and risk-management framework. The proposed acquisition process, which is composed of four phases (listed below), is focused on the following three basic premises:

The world has a critical need for efficient and effective project management, and the book provides a framework for addressing it. The book includes 25 case studies from countries around the world in various sectors, such as transportation, energy, and communication. These case studies illustrate the wide range of challenges faced by project managers in different industries. The book also includes practical tools and techniques for risk management, such as a risk matrix and a risk register. These tools help project managers to identify, assess, and plan for risks in their projects. The book concludes with a discussion of future trends in project management, such as the increasing importance of sustainability and the impact of technology on project management. The book is a valuable resource for project managers, executives, and students who want to improve their project management skills. The book is particularly useful for those who are looking to improve the performance of their projects by reducing cost overruns and schedule delays.
examines the role of large, strategic projects within a balanced program across NASA-SMD space and Earth sciences programs. It considers the role and scientific productivity of such missions in advancing science, technology, and the long-term health of the field, and provides guidance that NASA can use to help set the priority of larger missions within a properly balanced program containing a range of mission classes.

In the global construction market, most construction companies are willing to undertake international projects in order to maximise their profitability by taking advantage of attractive emerging markets and minimise dependence on unfavorable domestic market conditions. In order to be awarded a contract in a highly competitive global construction market, companies should concentrate on the most attractive projects and prepare winning bids for the selected construction projects in those markets. While preparing bids, the major concern of companies is to offer an optimum price that will enable them to earn enough profits and win the contract at the same time, where profit making ability is strongly correlated with proper estimation of a risk premium that is added onto the estimated cost of the project. Due to the nature of construction works, there are lots of uncertainties associated with the project, market and country conditions. Therefore, how the profitability of the project changes with occurrence of various risk events, in other words, the sensitivity of project costs to risk events, should be estimated by bidders realistically. In this study, fuzzy set theory is used to estimate cost overrun risk in international projects at the bidding stage. The objective is to propose a methodology which can be used by bidders to quantify cost overrun risk so that a realistic risk premium may be determined. A fuzzy risky rating approach is proposed to quantify cost overrun risk rating, which takes into account of risks characterised in international construction projects. For this purpose, risk sources have been identified and a risk model is put forward by using influence diagramming method. Based on this risk model, a fuzzy risk rating algorithm has been defined and software has been developed to conduct fuzzy risky rating calculations easily. After a decision-maker inserts the necessary inputs related with project and country risk factors, the output of the software is a ra.

Written by the former Deputy Counsel and Risk Manager for the Big Dig from 1996 to 2005, Virginia Greiman, this book describes the numerous risks faced by the project manager and the lessons learned that have never before been written about despite the huge volume of news articles and reports that have been published on the Big Dig. New insights based on excerpts of interviews offer new perspective on the challenges and accomplishments of the Big Dig. This book separates this from other texts in the field.

Covers the entire process of risk management by providing methodologies for determining the sources of engineering project risk, and once threats have been identified, managing them through: identification and assessment (probability, relative importance, variables, risk breakdown structures); methods of monitoring and evaluation of projects; and strategies for risk mitigation and minimising their effect. This text also considers sensitivity analysis to determine the influence of uncertain parameter values on different project results, such as completion time, total costs, etc. Case studies and examples across a wide spectrum of engineering projects discuss such diverse factors as: safety; environmental impacts; societal reactions; time and cost overruns; quality control; legal issues; financial considerations; and political risk, making this suitable for undergraduates and graduates in grasping the fundamentals of risk management.

Cost control and cost planning are an integral part of quantity surveying and construction management courses. This new book on building design uses programmed learning to demonstrate the ideas of cost control and cost planning, from first principles through practice. Worked examples are used throughout the concise and easily accessible text.

Effective risk management is essential for the success of large projects built and operated by the Department of Energy, particularly for the one-of-a-kind projects that characterize much of its mission. To enhance DOE's risk management efforts, the department asked the National Risk Management Advisory Committee to identify the most effective practices used by leading owner organizations. The study's primary objective was to provide DOE project managers with a basic understanding of both the project owner's risk management role and effective oversight of those risk management activities delegated to contractors.

Academic Paper from the year 2005 in the subject Business economics - Business Management, Corporate Governance, grade: 2.0, University of Sunderland, language: English, abstract: The following assignment demonstrates methods, tasks and participants of project management. The first part includes characterizations of projects and useful methods of project management. Concerning to a certain project, the scope, potential risks and methods are described. The second part of the assignment describes a project, its participants and methods used, to guarantee its success. In this aspect a special focus is laid on the project manager, as well as his tasks in project management. The scope of the project describes the work that needs to be done and includes the main objectives of the project. When planning the time and budget, potential risks and uncertainties, such as people and financial factors, are additionally added. Risk management deals with the analysis of potential risks and how you have to manage them. There is a wide range of potential risks, for example financial risks, which could be cost overruns or budget cuts. To identify risks, the first step is to assess the likelihood of every risk.

This book presents the outcomes of the symposium "NEW METROPOLITAN PERSPECTIVES," held at Mediterrenean University, Reggio Calabria, Italy on May 26-28, 2020. Addressing the challenge of Knowledge Dynamics and Innovation-driven Policies Towards Urban and Regional Transition, the book presents a multi-disciplinary debate on the new frontiers of strategic and spatial economic policies and decision support tools in connection with urban-rural area networks and metropolitan centers. The respective papers focus on six major tracks: Innovation dynamics, smart cities and ICT; Urban regeneration, community-led practices and PPP; Local development, inland and urban areas in territorial cohesion strategies; Mobility, accessibility and infrastructures; Heritage, landscape and identity;and Risk assessment, management, and research.

This book presents select proceedings of the International Conference on Sustainable Construction and Building Materials (ICSBCM 2018), and examines a range of durable, energy-efficient, and next-generation construction and building materials produced from industrial wastes and by-products. The topics covered include alternative, eco-friendly construction and building materials, next-generation concretes, energy efficiency in construction, and sustainability in construction and allied fields.

International Transaction Journal of Engineering, Management & Applied Sciences & Technologies publishes a wide spectrum of research and technical articles as well as reviews, experiments, experiences, modelings, simulations, designs, and innovations from engineering, sciences, life sciences, and related disciplines as well as interdisciplinary/interdisciplinary/subdisciplinary subjects. Original work is required. Article submitted must not be under consideration of other publishers for publication.

Cost overruns commonly occur in infrastructure projects, and when the owner is a government entity, these overruns may disrupt the funding available for other projects. Research on large projects indicates that actual project costs are on average 20% higher than estimated for road projects and 34% higher than estimates for tunnel and bridge projects. Other studies that reiterate the presence of cost overruns report values between 3.9 and 10 percent. Risk management can be used to identify and assess risks that may cause overruns and develop risk response plans for handling unexpected events. The study's Ministry of Transportation of Ontario (MTO) projects have an average cost overrun of 5.2% of tender value for new construction projects, and 11.5% for rehabilitation projects. The risk identification and analysis is followed by a comparison between MTO's risk management experience and other typical North American organizations that are involved in transportation infrastructure such as Infrastructure Ontario and the California Department of Transportation, as well as other contract delivery methods such as design-build and public-private partnerships. From analyzing 986 risk events, this research identifies design scope changes, material, and latent conditions as the main risks that appear to influence cost overruns for rehabilitation projects. For new construction, the main risks are design scope changes, latent conditions, and permits and regulations. Once the risks are identified and analyzed, action is required to manage the risks that are considered most important. This thesis touches on possible risk management actions for project managers.

Project managers tend to believe their cost estimates - whether they have exceeded budgets in the past or not. It is dangerous to accept the engineering cost estimates, which are often optimistic or unrealistic. Though cost estimates incorporate contingency reserves below the line, these estimates of reserves often do not benefit from a rigorous assessment of risk to project costs. Costs to risk from multiple sources including project uncertainty and project risk, which is often ignored in cost risk analyses. In short, experience shows that cost estimating on projects is rarely successful - cost overruns routinely occur. There are effective ways to estimate the impact on the cost of complex projects from project risks of all types, including traditional cost-type risks and the indirect but often substantial impact from risks usually thought of as affecting project schedules. Integrated cost-schedule risk analysis helps us determine how likely the project will go over budget with the current plan, how much contingency reserve is required to achieve a desired level of certainty, and which risks are most important so the project manager can mitigate them and achieve a better result. Cost-Schedule Risk Analysis provides solutions for these and other challenges. This book follows on from David Hult's highly-praised Practical Schedule Risk Analysis. It focuses on the subject of schedule risk can generate cost risk, and how to handle this relationship. It also applies the Risk-Driven Method to the analysis so that you can clearly and transparently identify the key risks, rather than just the most risky cost line items. With detailed worked examples and over 70 illustrations, Integrated Cost Schedule Risk Analysis offers the definitive guide to this critically important aspect of project management from the world's leading commentator.

This book explores various kinds of risk, domain-specific logic, risk management rules, and application requirements and practice driven methodologies that are mission and safety critical to business and service entities. The chapters fall into four categories to guide the readers with a specific focus on gaining insights from studies and researches, understanding and recognizing risks and rewards will prove the way for a more transparent and objective approach to benefiting from the potential of advanced technologies while maintaining awareness and control over hazards and risks. This book is conceived to inform decision-makers and practitioners of best practices across many disciplines and sectors while encouraging innovation towards a holistic approach to risk in their areas of professional practice.
This book offers a new way of thinking about the causes and consequences of cost overrun to firms and society. It is not only that projects commonly exceed their budgets, but this is also the case in all parts of the world. This book aims to free project cost overruns and risk management from the traditional modeling techniques, contrary to fuzzy logic, do not capture the nature of complex systems especially when humans are involved. Fuzzy logic uses human experience and judgment to facilitate plausible reasoning in order to reach a conclusion. It's an approach utilized in the 27 case studies including Time Forecasting for Project Management, New Product Pricing, and Control of a Parasitic P EST System. The book examines how the overruns are often due to a lack of knowledge, skills and experience, fear of change, lack of top management commitment, and excessive bureaucracy. The paper concludes with a set of recommendations to Pakistan construction sector explaining how they can adopt modern PM techniques undertaken in developed countries particularly in the UK to avoid the cost overruns.

MegaProjects and Risk provides the first detailed examination of the phenomenon of megaprojects. It's a fascinating account of how the promoters of multi-billion dollar megaprojects systematically and self-servingly misinform parliaments, the public and the media in order to get projects approved and built. It shows, in unusual detail, how the formula for approval is an unhealthy cocktail of underestimated costs, overestimated revenues, undervalued environmental impacts and overvalued economic development effects. This results in projects that are extremely risky, but where the risk is concealed from MPs, taxpayers and investors. The authors not only explore the problems but also suggest practical solutions drawing on theory, experience and hard, scientific evidence from the several hundred projects in twenty nations and five continents that illustrate the book. Accessibly written, it will be the standard reference for students, scholars, practitioners, economists, auditors, politicians and interested citizens for many years to come.

It is truly an interdisciplinary book for knowledge workers in business, finance, management and socio-economic sciences based on fuzzy logic. It serves as a guide to and techniques for forecasting, decision making and evaluations in an environment involving uncertainty, vagueness, imprecision and subjectivity. Traditional modeling techniques, contrary to fuzzy logic, do not capture the nature of complex systems especially when humans are involved. Fuzzy logic uses human experience and judgment to facilitate plausible reasoning in order to reach a conclusion. It's an applications presented in the 27 case studies including Time Forecasting for Project Management, New Product Pricing, and Control of a Parasitic Pest System.

Abstract: Whether forced by economic conditions or internal motivations, contractors may choose to minimize their mark-up margins in order to maximize their chances of winning a project. Such bidding conditions render contractors sensitive towards all types of risks associated with executing a project. This research aims at providing contractors with a framework through which they can reduce their bids price to be able to compete in low bidding conditions. This aim is realized through identifying risk elements that have the greatest impact on projects' costs in the Egyptian construction industry. Work on this research follows a risk path approach consisting of risk sources, risk events, and risk consequences, and vulnerability factors consisting of robustness factors, resistance factors and sensitivity factors, whose relationships and risk paths are mapped through an ontology model. The weights generated by the model comprise of five sets of weights. Each set represents the effect of one risk path element on a subsequent element, collectively demonstrating the relations connecting the risk path elements to cost overruns. The model's outputs shows that that about the top 20 Robustness factors are related to project design. Lack of contractor's technical resources rank higher than the contractor's financial resources in terms of their effect on Risk events. Project type has the most impact on project cost overrun, followed by Project delivery method. Further, delays due to bureaucracy whether from the owner or the government's side rank at the bottom of the list.

Anyone who has got a new or renovation work done in their house can tell you what a troublesome activity it is. Not only, that it seems to take forever to be completed and is heavy on the wallet. Even an international icon like the Sydney Opera House, which has always been Australia's pride, was delayed 10 years with its budget shooting up by 14.5 times its estimated budget of $7 million. There are plenty of such examples available. It very common for construction projects to get delayed and overrun their budget. This is a tough scenario faced by almost all projects around the world, with India not being an exception. Thus, the researcher has undertaken this research to identify the factors responsible for delays and cost overruns. Both secondary research and primary research have been carried out and the barriers have been identified. Such barriers create problems that hinder the efficiency and progress of a project, making it lag behind its schedule. The factors identified in the secondary research are compared to the findings of the primary research to see if they hold true in the Indian context.

This book discusses how Public-Private Partnership (PPP) is practiced in developed and developing economies. The book demonstrates how PPP as a concept has grown over the years with many governments particularly from developing economies/counties seeking to enhance infrastructure service delivery through this financial arrangement. Further, the book examines the current status of PPP development in these countries, with special focus on developing economies. Although there are many available textbooks on PPP, this book is unique because it provides in-depth analysis and discussion on the international best practices of PPP from developed and developing economies perspectives. This book provides strategic measures, useful practices and information about the similarities and differences in PPP practices in developed and developing economies based on empirical evidence and case studies. This book is structured in nine chapters. The first chapter explores the basic concept of PPPs. The second chapter deals with the general development of PPPs in developed and developing economies perspectives. The topics included in this book are: governments motivations for adopting PPPs, barriers to PPP implementation, measuring PPP project success, risk management in PPPs, causes of conflict and conflict resolution mechanisms in PPPs and management of unfulfilled proposals. The ninth chapter presents a comprehensive best practice framework for implementing international PPP projects. This book is useful to undergraduate and postgraduate students in architecture, civil engineering, business, construction and project management, researchers interested in PPP topics, international investors and financiers, public authorities and departments and international development banks. This book provides in-depth insights and understanding on the best practices for PPP from the international perspective especially from the viewpoint of countries with diverse culture and policies. Importantly, readers will be adequately informed of the similarities and differences of PPP practices and processes in developed and developing economies based on empirical evidence. Investors and governments will be informed of the strategic plans and preventive actions to employ when engaging in PPP arrangements in any part of the world.

The purpose of the 13th International Conference on Computer and Information Science (SNPD 2012) held on August 8-10, 2012 in Kyoto, Japan was to bring together researchers and scientists, businessmen and entrepreneurs, teachers and students to discuss the numerous fields of computer science, and to share ideas and information in a meaningful way. Our conference officers selected the best 17 papers from those papers accepted for presentation at the conference in order to publish them in this volume. The papers were chosen based on reviews submitted by members of the program committee, and underwent further rounds of rigorous review. The conference organizers selected 17 outstanding papers from SNPD 2012, all of which we will find in this volume of Springer's Studies in Computational Intelligence.

Project managers tend to believe their cost estimates - whether they have exceeded budgets in the past or not. It is dangerous to accept the engineering cost estimates, which are optimistic or unrealistic. Though cost estimates incorporate contingencies reserves below-the-line, this book examines how the overruns are often due to a lack of knowledge, skills and experience, fear of change, lack of top management commitment, and excessive bureaucracy. This book aims to free project cost overruns and risk management from the traditional modeling techniques, contrary to fuzzy logic, do not capture the nature of complex systems especially when humans are involved. Fuzzy logic uses human experience and judgment to facilitate plausible reasoning in order to reach a conclusion. It's an challenging account of how the promoters of multi-billion dollar megaprojects systematically and self-servingly misinform parliaments, the public and the media in order to get projects approved and built. It shows, in unusual detail, how the formula for approval is an unhealthy cocktail of underestimated costs, overestimated revenues, undervalued environmental impacts and overvalued economic development effects. This results in projects that are extremely risky, but where the risk is concealed from MPs, taxpayers and investors. The authors not only explore the problems but also suggest practical solutions drawing on theory, experience and hard, scientific evidence from the several hundred projects in twenty nations and five continents that illustrate the book. Accessibly written, it will be the standard reference for students, scholars, practitioners, economists, auditors, politicians and interested citizens for many years to come.

The Handbook of Research on Leveraging Risk and Uncertainty for Effective Project Management is a comprehensive reference source for emerging perspectives of managing risks associated with the execution and development of projects. Highlighting innovative coverage written by top industry specialists, such as complexity theory, psychological bias and risk management failures, probabilistic risk analysis, and various aspects of project decision making, this book is ideally designed for project risk managers, project engineers, cost estimators, schedulers, safety and environmental protection specialists, corporate planners, financial and insurance specialists, corporate decision makers, as well as academics and lecturers working in the area of project management and students pursuing PM, PMI-RMP, ISO 31000, etc. certification.

This book offers a new way of thinking about the causes and consequences of cost overruns to firms and society. It is ideal for academic researchers in project management, management accounting and finance, as well as for managers in the private and public sectors.

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