

## Editor's Introduction

In the middle of 2012, most of the countries in the world are undergoing depression or suffering debt crisis. The world we live in is far more interconnected than it was in the past. Highly interconnected systems are vulnerable to catastrophic failures. It implies that, using traditional technology, it is very difficult to capture today's fast-changing risks.

Obviously, human beings need more powerful tools to analyze the risks and manage the causes so that we could prevent the outbreak of the crisis. In the present issue of Journal of Risk analysis and Crisis Response (JRACR), Volume 2, Issue 2 (2012), such efforts have been vividly in papers. Swain's paper and Tichý's paper are the most representatives.

This issue contains 8 papers. The former 4 contributions are written in English and others in Chinese with English abstracts. The papers can be divided into four categories: terrorist attack, natural disaster, methodology and credit rating.

In the first category, "Explanation of Risk and Uncertainty in News Coverage of an Anthrax Attack" by Swain, analyzed 833 U.S. news stories about the 2001 anthrax attacks, to examine explanations of risk and uncertainty. Findings suggest that vague advice, sensational language, anonymous sourcing, premature coverage of hoaxes and false alarms, and speculation may contribute to public misunderstandings about the risks involved. News coverage of a bioterrorism threat can amplify the perception of indeterminate risk. Providing more explanatory content can help citizens frame risks rationally and put them into context.

The three papers in the natural disaster category offer tools for decision-making. The first paper "Urban Seismomorphoses Seismic Vulnerabilities, an Embarrassing Legacy" by Cartier, Vallette and Mediene, suggests a methodological pattern to identify "Urban Seismic Patrimonial Strategies", crossing urban historical heritage with public investment and patrimonial care permit to situate natural hazards mitigation in urban policy.

The second paper "The Meteorological Disaster Risk Assessment Based on the Diffusion Mechanism" by Guo, proposes the concept of diffusion of meteorological disaster risk. The result from a risk diffusion network is useful for government and relevant departments to make the decisions in dealing with meteorological disaster risk. The paper "The Nature Event's Probabilistic Risk Assessment of Nuclear Power Plants with Improvements" by Chen, Yu, Zhang and Chai, introduces the principle of risk assessment of the nature disaster to study risk of nuclear plants with hazard factor, vulnerability analysis, loss risk and risk zone map in nature disaster.

There also are three papers in the methodology category. The first paper "Entity Risk Mechanics", by Tichý, is undoubtedly an important explore for innovation of risk theory. Concepts of structural mechanics and structural reliability, common in design of constructed facilities, could upgrade the risk theory. The second paper "Risk Analysis Techniques in Construction Engineering Projects" by Baloi, reviews and discusses some of the risk analysis techniques available to tackle different types of uncertainty inherent in construction projects. These include Probability, Certainty Factors, Evidence Theory and Fuzzy Logic. It argues that the quality of risk analysis depends largely upon the appropriateness of the approach. Strengths and weaknesses of each technique are presented and

discussed. The paper “A Risk-Benefit Analysis Model for Project Investment Based on the Normal Distribution” by Chen, presents the solutions to apply normal distribution to the evaluation of continuous random variable, and to optimize the random variables by adopting optimization principles.

The last category includes one paper “A Credit Rating Model for Enterprises Based on Projection Pursuit and K-Means Clustering Algorithm” by Zhang and Zhou, proposes a new credit rating model for enterprises based on Projection Pursuit and K-means clustering algorithm. In this model, the initial cluster centers are determined by the combination of Projection Pursuit and kernel density estimation method, which can reduce iterative times, increase the convergence speed and improve the clustering effect of K-means clustering algorithm. Taking the high-tech listed companies in China as samples, it is proved that the model proposed by this paper is feasible and effective.

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