

Preface

We are living in a risky world, and it is getting riskier and riskier. Prediction of extreme risk events is almost unlikely, as being expressed by many scholars such as in Taleb's 2007 book titled *Black Swan*. Effective risk management needs integration of various risks facing the organization (Wu and Johnson 2009, 2010 HERA). Enterprise risk management has been defined as a process that uses integrated, systematic approaches to manage risks that face the organization. Therefore, enterprise risk management has been deemed as an effective risk management philosophy.

In the past, we have tried to discuss different aspects of risk, to include finance, information systems, disaster management, and supply chain perspectives (Olson and Wu 2008a, b, 2010). In this edited volume, we present the state-of-the-art views of the perspective of Risk Management in Sustainable Economy, Risk Management in Engineering Projects, Risk Management in Sustainable Enterprise, Environmental Risk Management, Energy Risk Management, Risk Management Modeling, Case Study of Risk Management

The bulk of this volume is devoted to presenting a number of modeling approaches and case studies that have been (or could be) applied to risk management in sustainability from the International Symposium on Statistics and Management Science in Nanjing, P. R. China. We include dynamic particle swarm optimization models, regime-switching models to assist risk managers to capture risk dynamics in their decisions. Rough Set and fuzzy set theories are employed in non-probabilistic uncertain environment. Dynamic models such as GARCH family models are used to handle risky project management when achieving sustainable development purpose. Failure Mode models are used in lots of engineering risk management problems. We hope that this book provides some view of how models can be applied by more readers aiming to achieve sustainable development in face of risks.

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