
Editorial: Advancing business continuity and risk management

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Abstract: Risks come in many varieties, and with this awareness there is a growing concern and concomitant effort for organisations to respond to the challenge. With the inaugural issue of the *International Journal of Business Continuity and Risk Management*, a new venue to advance our understanding of risk and to discuss organisational resiliency methodologies and technologies becomes available. Scholars and professionals from a broad range of related fields are invited to contribute their research findings and approaches to further this field.

Biographical notes: Kurt J. Engemann is the Director of the Center for Business Continuity and Risk Management and a Professor of Information Systems in the Hagan School of Business at Iona College, USA. He has consulted professionally in the area of risk modelling for major organisations and has been instrumental in the development of comprehensive business continuity management programmes. He is the Editor-in-Chief of the *International Journal of Business Continuity and Risk Management* and the *International Journal of Technology, Policy and Management*. He has a PhD in Operations Research from New York University and is a Certified Business Continuity Professional.

1 Introduction

Numerous recent events have led to a heightened awareness of the need to be prepared for the worst. Risks cannot be eliminated but they can be controlled. Because business continuity and risk management often deals with events that are improbable, analysing these risks is challenging. The mission of the *International Journal of Business Continuity and Risk Management* is to advance our understanding of risk and to foster the development of methods to provide for organisational resiliency in the face of threats and disasters that encompass the broadest range of possibilities. Business continuity and disaster recovery plans are necessary components of overall business planning since disasters do happen. The appropriate level of control depends both on the likelihood of the risk occurring and the magnitude of the loss if the risk does occur.

Organisations are faced with the concerns of growing reliance on access to information, along with ensuring business continuity during a disaster. Management recognises the link between information security and a strong reputation and would benefit by taking a more strategic approach to risk. For any organisation to fulfil its

mission, it is vitally important for data to be continually secure and available. When information technology systems are disabled by some form of disaster, critical functions are in peril, and that may mean a business, is out of business.

The management of risks to information technology systems is a fundamental component of every organisation's information security program. An effective risk management process enables an organisation to protect its information assets and supports its ability to carry out its mission successfully. As businesses increasingly rely on web-based applications and web-enabled services, they there become more vulnerable to attacks from viruses, intrusions, and denial of service attacks.

Integrating risk into an investment decision requires balancing the quantitative and the qualitative aspects of the decision process. If risk events do occur, this results in substantial losses and organisational turmoil. The economic slowdown will increase companies' supply chain exposures, and as companies turn to outsourcing, the risks are growing. Government, businesses and nonprofits must work together when emergencies strike, and that requires all three to plan together.

2 Subject coverage

As can be noted in the Subject Coverage of the *International Journal of Business Continuity and Risk Management*, suitable topics for the journal include a wide array of areas. An important area of interest includes the professional practices of business continuity, including project initiation, risk assessment, feasibility analyses, business impact analysis, business continuity strategies, coordinating emergency operations, developing a business continuity plan, testing and maintaining business continuity capabilities, training and awareness, crisis communications, and coordination with external agencies. Our failing infrastructure alerts us to its importance in economic development and security. Infrastructure includes the complex systems providing transportation, energy transmission, and data communication, as well as many other essential networks. Decision technology in the form of sophisticated risk modelling methodologies and software are increasingly important as organisations grapple with the myriad risks they face. Knowledge management, simulation, visualisation, intelligent agents are only some of the technologies that are gaining in importance. Business continuity can be impacted by a lack of natural resources, environmental threats, terrorism, supply chain risk, pandemics, and a seemingly endless list of possible threats. Poor response to a disaster can seriously damage an organisation's reputation. Enterprise risk management is the responsibility of all managers, in light of the uncertainty of the global economy. Crisis management information systems, homeland security, and systems security – the subject coverage of the journal is as encompassing as the list of possible threats.

3 Inaugural issue

In this inaugural issue of the *International Journal of Business Continuity and Risk Management*, we present a wide range of vital research with a variety of application areas.

The market surveillance function of a stock exchange is to provide a fair and orderly market by monitoring stock price movements. Alerts are generated to identify an illegal transaction. To assist management in making these decisions, quantitative methods are used to find aberrant behaviour. Bob Richardson's research of online market surveillance models for the New York Stock Exchange focuses on online identification of aberrant stock price movements that relies on advanced statistical techniques. This method provides a suspicion index that accurately rates the potential alerts to be investigated.

In response to challenges regarding the way organisations think individually and collectively about risk, Phil Kelly investigates risk specialists' current thinking on risk. Organisational risk culture is conceptualised in terms of collective risk thinking, to include risk perception and other cognitive processes and risk behaviour. Kelley investigates its determinants and consequences – contingency theory and the concept of dysfunctional and congruent risk cultures.

Ebrahimnejad *et al.* identify important risks in Iran onshore gas refinery plants and prioritise risk on the basis of the significance of impacts on typical project objectives in terms of cost, time, quality, safety and environmental sustainability. They propose a method to select a fuzzy model and present a case study problem to find the better performance in project risk ranking.

Many analysts consider quantitative risk assessment to be an application of statistics and founded on the natural science paradigm. Aven presents a new scientific framework for describing uncertainties. The framework is based on knowledge-based probabilities to express uncertainties about unknown quantities, as well as qualitative assessment of uncertainties extending beyond the probabilistic analysis. Risk is viewed as the combination of events/consequences and associated uncertainties.

The peaking of world oil production presents the world with an unprecedented energy crisis. Wonglimpiyarat discusses the diffusion model of the energy industry under its transition from oil-based to bio-based energy system as well as the direction of technological change of the energy innovation system. The study suggests the market trend and development of bio-based energy in addressing the energy supply problems. The study offers policy recommendations to build the security and stability in the energy innovation system.

Throughout history infrastructure has supported economic, political, and social development. Engemann and Miller discuss the criticality of infrastructure in economic development and security, and identify various risks posed by smart technologies as applied to infrastructure. They provide a computational intelligence methodology, using attitudinal and fuzzy modelling, and illustrate its application as a risk modelling decision technology in the selection of smart technology in critical infrastructure.

4 Invitation to contribute

The editorial team of the *International Journal of Business Continuity and Risk Management* invite both professionals and academics to contribute their work to the journal in order to continue this important discussion and to advance our knowledge in this critical area.

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