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Emerging Risk: An Integrated Framework for Managing Extreme Events

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Background of This Research

- Doctoral research (dissertation) on Emerging Risk
 - Doctor of Management
 - Scholar-practitioner model, Evidence-based research
 - Purposive search of scholarly literature
- Interest in linking dissertation research to risk management practice, with particular focus on the area of Enterprise Risk Management



Interest in Topic

- Why are extreme events so clear in retrospect, but yet seemingly overlooked, downplayed or ignored during their 'emergent' stage?
 - "predictable surprises" (Bazerman & Watkins, 2004)
- What 'alternative' tools might be of assistance in identifying and assessing emerging risk?
 - 'alternative' = qualitative, management-based



Emerging Risk

- “A novel manifestation of risk of a type never before experienced” (Locklear, 2011)
- Can be divided into two categories
 - Entirely new: Did not exist previously
 - Example: Nanotechnology
 - Hybrid: Blends together known risk types in novel ways (combinations) to produce outcomes not previously experienced
 - Example: Zoonotic disease + global warming = ?



Why look at emerging risk?

- If allowed to progress through its developmental stages, emerging risk can actualize as an extreme event (disaster) capable of producing significant harm to a wide array of stakeholders
 - The borderless nature of risk makes emerging risk, and risk management/ERM, a matter of social responsibility




Research Thesis

- By understanding the nature and dynamics of emerging risk, it becomes possible to propose an innovative framework for managing extreme events (including emerging risk) within an ERM program.




Theoretical Assumptions

- Organizations as socially constructed artifacts, open systems which therefore must face continual change and complexity (Daft & Weick, 1984)
- Risk management is just one of the organizational processes that takes place through a series of human interactions and interpretations




Research Propositions

- Emerging risk finds its nexus in the conditions of today's world- complex, dynamic and interconnected (Giddens, 1990)
- Globalization has radically altered the nature of modern risk
 - “globalization of risk” (Tacke, 2001; Giddens 1990)
 - Risk is complex, incalculable, delocalized and borderless (Beck, 2007; Smith & Fischbacher, 2009)



Challenges of Emerging Risk

- ‘Complexity Challenges’: interconnectivity and complexity make it difficult to isolate causal factors
 - Simple cause and effect relationships increasingly replaced with multi-causal systems, multi-conditional systems (Coomber, 2006)
 - Proposition: Under these conditions, ‘systems thinking’ offers an approach for understanding emerging through the lens of ‘multiple possible future endpoints’




Challenges of Emerging Risk

- 'Relational Complexity': Growing difficulty in determining relationships among causal factors, making risk more 'opaque'
 - Richardson, Cilliers & Lissack (2001)
- Proposition: Under these conditions, complexity theory offers a means for understanding emerging risk in terms of its constituent components and their interactions



Challenges of Emerging Risk

- Cascade potential: Seemingly simple root causes can trigger events which cascade through a network and are amplified to produce an extreme event
 - Example: August 2003 mega-power outage
 - Ohio, Maryland, New York, Toronto
 - Overstressed lines failed in Ohio after contacting overgrown tree limbs (Holbrook, 2010)
 - Expected outcome was a minor, local outage
 - Proposition: Systems theory and complexity theory offer a means for anticipating how seemingly small and local 'inputs' can result in extreme events




Challenges of Emerging Risk

- Lack of historical data
 - The capabilities of traditional risk management tools (quantitative, predictive) are being stretched when applied to emerging risk
 - Proposition: Under these conditions, alternative tools and approaches are needed to manage emerging risk
 - Proposition: Under these conditions, the tools of environmental scanning, strategic foresight and anticipatory management offer approaches for managing emerging risk



Challenges of Emerging Risk

- Emerging risk is often opaque, clouded within a complex web of causal factors, until it escalates into an extreme event
 - Proposition: The tools of environmental scanning can help identify early “signals of change” (Ashley & Morrison, 1997) which if overlooked, ignored or downplayed, can allow emerging risk to continue along its development trajectory



Challenges of Emerging Risk

- Each day, organizations face a dynamic and evolving set of risks as well as information about how they can protect themselves, but continue to be ‘surprised’ by extreme events
 - Proposition: By drawing from literature on ‘cognitive impediments’ organizations can reduce their susceptibility to the “surprise” of emerging risk



Synthesis of Literature

- “Theory” Lens for Viewing Emerging Risk
 - Globalization, Globalization of Risk
 - Modernity
 - Systems thinking
 - Complexity theory
 - Cognitive impediments




Synthesis of Literature

- “Practice” Lens for Addressing Emerging Risk
 - Scenario Planning
 - Anticipatory Management
 - Environmental Scanning



Main Themes and Authors from Literature: Theory Lens

Theory Lens	Modernity, Globalization	Conditions of modernity (Friedman, 2005); Unintended consequences of modernity (Bellini, 1989; Beck, 1992)
	Globalization of Risk	Delocalized, incalculable, complex (Beck, 2007; Giddens, 1990)
	Cognitive Impediments	“groupthink” (Janis, 1972, 1982); “commitment escalation” (Staw, 1981)
	Complexity Theory	“Relational Complexity” (Cilliers & Lissack, 2001)
	Systems Thinking	System structure, patterns, interconnections, interdependencies (Senge, 1994; Sornette, 2009)



Main Themes from Literature: Practice Lens

Practice Lens	Scenario Planning	“scanning at the periphery” (Haeckel, 2004) “purposeful stories” describing how the environment might unfold over time (Burt, Wright, Bradfield, Cairns & van der Heijden, 2006)
	Anticipatory Management	Detecting “signals of change” (Ashley & Morrison, 1997)
	Environmental Scanning	“scanning at the periphery” (Haeckel, 2004)



Proposed Conceptual Framework

- Involves operationalizing the “theory” and “practice” lenses as an innovative framework that facilitates the handling of ‘emerging risk’ within an ERM program

INNOVATIVE, HOLISTIC ERM FRAMEWORK


	ERM PROCESSES		ERM STRUCTURES	
ORGANIZATIONAL PROCESS	SCENARIO PLANNING	RISK MANAGEMENT PROCESS	CORPORATE SOCIAL RESPONSIBILITY	ORGANIZATIONAL ARCHITECTURE
	ANTICIPATORY MANAGEMENT		CORPORATE SUSTAINABILITY	
	STRATEGIC FORESIGHT		CORPORATE GOVERNANCE	
	ENVIRONMENTAL SCANNING		CORPORATE STRATEGY	
	PILLAR 2		PILLAR 1	

Deconstructing the Conceptual Framework

Each “pillar” constitutes a dimension of ERM


Conclusion: Future Research

- Does the proposed framework enable organizations to better manage emerging risk?
- Does the structure of the framework enhance the success of ERM program implementation?



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