How Businesses Survive after a Disaster

EPI CC – April 28, 2009

Fredric Kropp, PhD
Monterey Institute of International Studies, Monterey, CA, USA

fredric.kropp@miis.edu
Based on work with Roxanne Zolin (QUT)


fredric.kropp@miis.edu
Motivation

- Presentation at USASBE by faculty from a university in New Orleans
- Roxanne worked at the NPS on a project with the Center for Stability and Reconstruction
- Also colleague of Brian Steckler, NPS, Hastily Formed Networks Group
- r.zolin@qut.edu.au
The setting - part 1

- Post Hurricane Katrina - interviews:
  - “Engineering Software,” small firm, 80 people in one location
  - “City University,” 17,000 students & 1,200 faculty
  - “Department of Information Processing,” large IT service provider, 1,500 employees, with counterparts elsewhere
The setting - part 2

- In our minds/grounded in entrepreneurship theory
  - Different types of entrepreneurs:
    opportunity-based entrepreneurs and entrepreneurs by necessity
  - Entrepreneurial Orientation (EO) and Lumpkin and Dess (1996) model
Entrepreneurial orientation (EO), Lumpkin & Dess, 1996

Entrepreneurial Orientation
- Autonomy
- Innovativeness
- Risk taking
- Proactiveness
- Competitive aggressiveness

Environmental Factors
- Dynamism
- Munificence
- Complexity
- Industry characteristics

Organizational Factors
- Size
- Structure
- Strategy
- Strategy-making processes
- Firm Resources
- Culture
- Top management team characteristics

Performance
- Sales growth
- Market share
- Profitability
- Overall Performance
- Stakeholder satisfaction
But first, the story.... Hurricane Katrina
The story continued

- 1325-2500 dead
- Over 1 million people displaced
- Untold suffering
- US$80-130 billion damage
- Thousands of businesses destroyed
Impacts on Businesses

- Loss of people
- Inability to communicate
- Loss of or damage to physical property
- Broken supply chain
- Radical shifts in demand
- Potential severe cash flow problems
Loss of People

- Death or injury
- Other priorities
- Unable to physically get to or communicate with work
- In first hours, personal situation awareness critical
Personal situation awareness

- Assessment of physical well-being of
  - Individuals: self, employees, families, other key people in life
  - Home and other personal property

- Though started in first hours may take weeks
Inability to Communicate
Inability to communicate

- Hastily Formed Networks group at NPS dispatched to Mississippi to reestablish contact with military installations.
- HFN mission is “to improve the effectiveness and the efficiency of U.S. and International Disaster Relief Operations, especially where the U.S. is working in collaboration with NGO, IO, and Foreign Governments.”
- www.hfncenter.org; http://dkms.resiliencesystem.net/
Resilience

- the physical property of a material that can return to its original shape or position after deformation that does not exceed its elastic limit

- an occurrence of rebounding or springing back
Resilience

- In computer networking: “Resilience is the ability to provide and maintain an acceptable level of service in the face of faults and challenges to normal operation.”

fredric.kropp@miis.edu
Department of Defense
SSTR

- Stability
- Security
- Transition
- Reconstruction

fredric.kropp@miis.edu
Hancock Medical Center

fredric.kropp@miis.edu
Ability to communicate
Ability to communicate
Loss or Damage to Physical Property
Disaster Contingency Plans

- Many businesses have them but they often are ineffective as they can’t anticipate the scope of the disaster
- Never practiced or don’t have one
- Can’t find key decision makers
- They are not resiliency plans
Engineering Software

- No formal disaster plan
- Partners operated independently
  - One on reestablishing infrastructure
  - One on maintaining client contact
- Maintaining identity key – keeping website operational
City University

- Had a disaster plan, however
  - People were unfamiliar with it
  - Didn’t know what to do
  - Plan did not cover situation (that they were undamaged but inaccessible)

- Top management and volunteers banded together

- Relied on out-of-area help
Department of Information Processing

- Had an effective plan that was practiced regularly
- Relocated in Pennsylvania and conducted operations from there
- The plan worked
Broken supply chain
Radical shifts in demand

![Graph showing supply and demand curves with a shift in demand](image-url)
Cash flow problems
Stages of business response

- First hours: personal situation awareness
- First day: Business situational awareness
- First week: finding people
- First two weeks: reconstructing management
Stages of business response

- First month: reconstructing strategy
- First quarter: back to the (new) business
- Learn from business successes and from failures
And now....

- A short interlude to avoid death by PowerPoint
Entrepreneurial orientation (EO), Lumpkin & Dess, 1996

Environmental Factors
- Dynamism
- Munificence
- Complexity
- Industry characteristics

Entrepreneurial Orientation
- Autonomy
- Innovativeness
- Risk taking
- Proactiveness
- Competitive aggressiveness

Organizational Factors
- Size
- Structure
- Strategy
- Strategy-making processes
- Firm Resources
- Culture
- Top management team characteristics

Performance
- Sales growth
- Market share
- Profitability
- Overall Performance
- Stakeholder satisfaction

fredric.kropp@miis.edu
Big Ideas

- Immediately following a disaster, the short-term goal of the firm is survival.
- Firms with a higher EO will be more likely to survive a cataclysmic disaster.
Gets a little confusing

- Sometimes an entrepreneur is a person, sometimes a business
- As a person, two types
  - Opportunity based
  - Necessity based
- Then, there are social entrepreneurs
- Next slides look at the business level (much of which applies to the individual)
Entrepreneurial Orientation

- Autonomy - “independent action by an individual or team aimed at bringing forth a business concept or vision and carrying it through to completion.”
  Lumpkin and Dess (2001)
  - Greater autonomy → higher probability of survival
Entrepreneurial Orientation

- Innovativeness - “reflects a firm’s tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes” Schumpeter (1954).

  Greater innovativeness → higher probability of survival
Entrepreneurial Orientation

- Proactiveness - the opportunity-seeking, forward-looking perspective that involves introducing new products/services and acting in anticipation of future demand.
  - Greater proactiveness \(\rightarrow\) higher probability of survival
Entrepreneurial Orientation

- Risk-taking - “uncertainty and potential losses associated with the outcomes which may follow from a given set of behaviors” Folani and Mullins (2000).
  - Reasonable risk-taking $\rightarrow$ higher probability of survival
  - Unreasonable $\rightarrow$ lower probability
Entrepreneurial Orientation

- Competitive Aggressiveness - “refers to a firm’s propensity to directly and intensely challenge its competitors to achieve entry or improve position, that is, to outperform industry rivals in the marketplace” (Lumpkin and Dess 1996).
  - Appropriate CA → higher probability of survival
Environment

- Munificence ~ abundance (compare with scarcity)
  - Greater munificence $\rightarrow$ higher probability of survival

- Dynamism and complexity could work in many different ways
Dynamism/Complexity

- Dynamism – the rate of unpredictability of environmental change surrounding a firm
- Complexity relates to the range, variety, and heterogeneity of environmental factors involved in strategic decision making

fredric.kropp@miis.edu
Organizational Factors

- Larger $\rightarrow$ higher probability of survival
- More resources $\rightarrow$ higher probability
- Less destroyed $\rightarrow$ higher probability
Take-aways

- Plan, plan, plan
- Practice, practice, practice
- Understand the businesses you serve
- Encourage, foster EO
- Recognize importance of speedy help
Almost done

- Top 10 list of creativity
Questions

- Questions?

fredric.kropp@miis.edu