

## **CRISIS DECISION-MAKING: UNDERSTANDING THE DECISION-MAKING PROCESS DURING EMERGENCIES**

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**ABSTRACT:** Organizations going through emergencies have to work with a variety of stakeholders, or system of stakeholders, as they prepare for, recover from and return to normalcy. As in any organization, decisions made by one stakeholder can have consequences on other stakeholders. The challenge facing emergency and business continuity managers is developing procedures that allow system stakeholders to better understand the decisions being made and thereby mitigate the impact of unintended consequences. This paper reviews the related literature on three theories that can be applied to organizational decision-making and how they can assist leaders better understand the decisions organizations make during emergencies. The paper concludes with a model that can be generalized to any organization or system for minimizing unintended consequences and improving the transparency of decision-making during emergency situations.

### **INTRODUCTION**

As organizations become more and more complex with ever increasing stakeholder interests, a challenge facing emergency and business continuity managers is addressing the interconnectedness of organizations and the impact it has on decision making. Palmberg (2009) and Ng (2009) describe this interconnectedness as a complex adaptive system where dynamic and interdependent connections exist between agents. On an international scale these events can include technological incidents, terror-related risks, food safety and infectious diseases. The same can be said for disasters on a national or regional level such as oil spills, flooding, and on a more local scale earthquakes and tornados. Similarly, the interdependence of decision-making can also be applied to the private sector in business continuity responses for events such as information security breaches, computer hacking and terrorist acts. Due to the complexity of these systems, the decisions stakeholders make will result in consequences on other organizations as well.

The challenge emergency and business continuity managers have during these situations is accurately determining the interconnectedness and consequences of actions when attempting to return to a sense of normalcy. Although it is easy to see the interconnectedness of actions on a major scale, it also occurs on a smaller scale between local or regional governments, small businesses and nonprofits.

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For example, one of the most common lessons learned from looking back on emergency actions has to do with communication efforts. Kettl (2006) described the various systems of communication between federal, state and local agencies as being a “wicked problem” (273) that prevented essential support from being provided to communities along the Gulf Coast of the United States during Hurricane Katrina. Similar “wicked problems” (Kettl, 2006) often arise on a more local level with businesses and governments trying to respond to emergencies.

Developing methodologies to identify the interrelatedness of decisions between organizations can be challenging during normal operations. However, identifying relationships and their intended and potentially unintended consequences during crisis situations can be particularly challenging. By developing a model to analyze decision-making inputs from a variety of perspectives, emergency and business continuity professionals may be able to better predict the outcomes of their decision-making, reduce unintended consequences and more quickly return to normalcy.

## DISCUSSION

**Complexity Theory:** Complexity theory attempts to explain how organizations behave. Complexity theory suggests there are underlying assumptions of organizational behavior and external forces that drive decision-making. According to Morrison (2005), organizations, like society, are dynamic open systems that are sensitive to forces. They are influenced by feedback and their interconnectedness to other organizations.

According to Stacey, Griffin and Shaw (2000), individual actions play a major role in how an organization will react in times of emergencies. The authors suggest that one must understand how individuals will act during a crisis to understand how and what decisions may be made in responding to emergencies or disasters.

Similarly, Wheatley (1999) discusses how change can cause chaos in organizations. Wheatley suggests that in leading through change one must understand the underlying principles and vision of the organization to accurately determine how it will act in a crisis. To better understand decision-making during emergencies, Wheatley (1999) and Stacey, Griffin and Shaw (2000) suggest that one has to also understand the underlying assumptions (values and shared vision) of an organization to understand crisis decision-making.

**Structuration Theory:** Structuration theory attempts to explain decisions through the lens of organizational values and culture. Similar to organizational culture, Morrison (2005) suggests organization routines can be powerful influences in organizations.

Stones (2005) suggests decisions made by individuals in organizations are influenced by the values and culture an organization practices. According to Stones (2005) organizational culture can replace the individual values in decision-making. As a result, understanding organizational culture and values can help predict decision-making during an emergency.

In the field of nursing, research suggests that structuration theory influences a culture of safety. According to Groves, Meisenbach and Scott-Cawiezell (2011) a culture of safety in nursing strongly influences practices. The authors suggest that there can be competing cultures in the medical facility system that may compromise one culture over another resulting in unintended consequences when decisions are made. Applying the concept of competing cultures to emergency and disaster management, one can suggest that competing cultures may exist between interrelated governmental or business systems. Understanding the complex relationships between system stakeholders may mitigate unintended consequences of decisions.

**Systems Theory and Systems Thinking:** Systems theory attempts to explain the causal relationships of actions taken within and on a system. Checkland (2006), in his study of Soft Systems Thinking, suggests that an organization has a “view” of itself that can influence how it reacts to the internal and external forces of the system in which it operates. Checkland argues that each organization interprets situations differently when trying to solve a problem or react to an influence.

Other social science research supports Checkland’s work on Soft Systems Thinking. Zexian and Xahui (2010) suggest that organizations are self-organizing and adaptive to internal and external forces when responding to influences like emergencies. Skarzauskiene (2010) suggests that leaders need to understand reasons for change and the needs of others in their system when new influences are thrust on them. Similarly, Cundill, Cumming, Biggs and Fabrecius (2011) and Mello (2008) suggest that change is contextually driven and creates new needs and variables that have to be addressed by an organization. Research suggests that system theory can explain the causal relationships within and between organizations so needs can be addressed in a holistic perspective rather than as independent actions.

Systems thinking is the study of the causal relationships on a system (Senge, 1994 and Senge, Smith, Kruschwitz, Laur and Schley, 2010). It is one way for emergency and business continuity managers to begin to understand how actions taken by one organization can impact stakeholders when responding to emergencies. Senge (1994) and Senge et al. (2010) argue that by studying the system of an organization (both its internal procedures and operations in the external environment), one can understand the interrelatedness of decisions. Senge (1994) and Senge et al. (2010) suggest that understanding the

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interrelatedness of actions within an organization and among stakeholders can help managers provide services that are coordinated, intended and sustainable.

Using the principles of systems thinking, Mitchell (2006) discusses how two other concepts can help clarify coordination efforts, quicken response times and promote returning to normalcy. Referring to the disciplines of the Learning Organization (Senge 1994), Mitchell (2006) suggests that understanding an organization's Mental Models and Shared Vision can help one understand decisions made by organizations in times of crisis. Mental Models are the defensive mechanisms of individuals that prevent seeing the need for change (Senge 1994). These models can prevent an organization from addressing the need for change during emergencies. As a result, an organization tries to respond to an emergency with their routine business operations which may no longer be appropriate. Shared Vision is the common vision or guiding purpose of the organization that is shared among its members (Senge 1994). Similar to Mental Models, an organization's Shared Vision can prevent it from seeing the need to change given new circumstances during emergencies. Understanding how Mental Models and Shared Vision can impact decision-making in an emergency can help overcome resistance to necessary change.

Similarly, Flood (1999) suggests that understanding systems from four perspectives can further define interrelationships within and among organizations. Flood (1999) uses systems thinking as a way of solving organizational issues or dilemmas (6). According to Flood (1999) systems thinking develops a deeper understanding of the interrelatedness of organizational actions.

Flood's four proposes of a systems thinking model consists of the following:

- (1) Systems Process – the efficiency and reliability of the system
- (2) Systems Structure – the effectiveness of the system
- (3) Systems of Meaning – does the system do what we want it to do?
- (4) Systems of Knowledge-Power - how is knowledge transmitted within the system

In addressing interrelatedness of emergency or business continuity actions, one can suggest that Flood's Systems of Meaning could help in understanding how organizations act in times of disasters.

Understanding what drives the decision-making process of an organization can develop responses that can best support system-wide efforts during emergencies. Even more importantly, one can also identify potentially unintended consequences from decisions that left unaddressed could cloud transparency in decision-making and delay an organization's return to normalcy.

**Systems Thinking/Complexity/Structuration Decision-Making Model:** By combining the concepts of Systems Thinking, Complexity Theory, and Structuration Theory, one can envision a model for decision-making in complex

environments like emergencies and disasters. As a result, decisions can be made that reduce unintended consequences, provide better coordinated responses and improve decision-making transparency.

As indicated in Figure 1 in the Systems Thinking/Complexity/Structuration Decision-Making Model, organizations:

(1) identify decision-making inputs such as organizational values, vision, mental models, underlying assumptions and culture;

(2) identify business processes and procedures;

(3) identify potential system variables that can be impacted by a change event;

(4) identify decision-making inputs that can impact other stakeholders through intended and unintended consequences;

(5) collaborate with system stakeholders to develop processes that best support each other; and

(6) evaluate responses and incorporate them into new business processes where appropriate.

By recognizing a system's underlying assumptions such as organizational values, vision and culture; business processes and procedures; and potential variables that can impact a change event, collaborative actions can then be developed to best support the needs of the system and its members. The result will be improved responses and transparency of decision-making that takes into account the underlying assumptions of organizations.

**Figure 1**  
**Systems Thinking/Complexity/Structuration Decision-Making Model**



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**Model Application:** One can see this process taking place during table-top exercises of an emergency. In a recent exercise, a county office of emergency services representative was discussing the role that local hospitals would need to play in providing medical support to the community and first responders. The emergency service representative suggested that the hospitals would provide the necessary beds and space to care for the emergent needs of the community. The hospital representative said that during normal operations, they would be able to do this. However, they might not be able to provide the support immediately after an emergency. The hospital's initial response had to be ensuring the care of existing patients. In this case, the emergency services representative made a decision based on routine operations and did not take into account the adaptive changes required on the system given the new variables of the emergency. These new variables included the new requirements of the hospital to ensure the care and safety of their existing patients before accepting potentially large numbers of new patients from the emergency. After a period of collaboration, it was determined that the emergency services' need to support the community (established by their culture, values and vision) and the hospital's new requirement for first supporting their existing patients (a new variable introduced by the emergency) could both be supported. One possible answer was to set up a temporary triage tent that provided the emergent medical needs from the

emergency while the hospital ensured the safety of their existing patients. The information about the temporary triage center was then fed back into the decision-making process and incorporated into emergency plans. As a result, the intended consequence of providing the necessary emergency medical support was addressed with transparency in the decision-making process and with no expected unintended consequences.

## CONCLUSION

During emergencies and disasters organizations strive to recover and return to normalcy in complex systems environments. To assist in the decision-making process, an understanding of the system in which an organization operates; and the values, assumptions and cultures of the stakeholders can help maximize intended consequences, reduce unintended consequences and improve transparency. As a result, looking at systems processes and their values, assumptions and culture of stakeholders, organizations can more effectively and expeditiously return to normalcy after an emergency or disaster.

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