

# **Organizational Resilience Indicators Based on a Salutogenic Orientation**

By

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## **ABSTRACT**

Disasters such as the recent parliament shooting in Ottawa, Superstorm Sandy, and the Great Japan Sea Earthquake and tsunami are reminders of the roles essential service organizations have in maintaining public health. On a daily basis, organizations are expected to operate under normal conditions, providing goods, services, and community supports. In crisis situations, it is critical that these organizations continue to operate and contribute to adaptive response and recovery in a community. Business continuity planning focuses on ensuring continued functioning of core operations during a disruption. Inherent to the business continuity field is a prevent-and-protect approach to preparedness activities. Asset-mapping exercises have the potential to balance the predominantly risk-based field by focusing on the strengths and capabilities already present within an organization. To understand the value of asset-mapping activities in business continuity plans (BCPs), indicators for organizational resilience are needed. Indicators have the potential to provide essential service organizations with a way to gauge the value of their BCP activities. In addition, this information can help guide decision-makers when developing BCPs. This research is part of a larger project at the University of Ottawa focused on building the empirical evidence base for BCPs and organizational resilience. This thesis, as a sub-study within the larger project, explores assets and indicators for organizational resilience to contribute to the effective evaluation and engagement of organizations in business continuity planning efforts. Emergent themes highlight the importance of assets and their contribution to the adaptive capacity of an organization in the event of a disaster. This study also provides an example list of 28 SMARTT organizational resilience indicators directly derived from organizational assets, providing information that researchers and essential service organizations can use to evaluate business continuity planning activities in relation to organizational resilience.

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## **CHAPTER 1: INTRODUCTION**

### **1.1 Background**

On a daily basis, organizations are expected to conduct their operations under normal conditions, following regular processes and activities. Businesses, non-profit organizations, and public agencies are key stakeholders in communities as they provide goods and services, employment opportunities, cash flow, and community supports. As a result, these organizations play critical roles in maintaining public health and well-being. It is therefore of utmost importance to ensure these organizations continue to function when a disaster occurs.

Disasters such as the recent parliament shooting in Ottawa (October 2014), Superstorm Sandy (October 2012), the Great Japan Sea Earthquake and tsunami (March 2011), and Hurricane Katrina (August 2005) are reminders of the need for communities to engage in emergency preparedness initiatives to enhance their resilience in the event of a disaster. In particular, essential service organizations contribute to population health and safety, as they provide products and services that support the continued functioning of individuals and other organizations. In this study, we define essential services as those services that are necessary for the continued functioning of individuals, families, and communities. Essential services include housing support, health and social services, financial aid, communication systems, and emergency management.

It is critical for essential service organizations to coordinate their services to ensure business continuity, sustainability, and protection of critical infrastructure during natural or man-made disasters. To achieve this, organizations must engage in activities that promote their resilience.

Organizational resilience is the ability of an organization to resist, absorb, recover, and adapt to the altered environment following a disaster (Kahan, Allen, George, & Thompson, 2009; McManus, Seville, Vargo, & Brunson, 2008). To achieve organizational resilience, it is important to understand what features within an organization promote resilience. Several features have been identified in the extant literature, such as leadership, communication, organizational culture, and internal resources (Crichton, Ramsay, & Kelly, 2009; Lengnick-Hall, Beck, & Lengnick-Hall, 2011; McManus et al.; Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008; Stephenson, 2010). However, what are needed are indicators of organizational resilience toward improving the abilities of essential services organizations to enhance their resilience.

Business continuity planning has been proposed as a strategy to promote organizational resilience by enhancing the capacity of an organization to persist and maintain business operations during a crisis (Speight, 2011). However, much of the literature supporting business continuity plans (BCP) is founded on discussion papers and government documents. More empirical studies are needed to demonstrate the value of BCPs for organizational resilience. Since disasters are often classified as low-probability, high-impact events, organizations struggle with overcoming the barriers of investing the necessary resources and time into development of BCPs, as the return on this investment is difficult to ascertain (Duncan, Yeager, Rucks, & Ginter, 2011; Herbane, 2010). The provision of indicators for organizational resilience becomes important as it allows essential services organizations to understand the value of implementing a BCP.

Most contingency planning emphasizes the risks and vulnerabilities confronting the organization, rather than the resources and assets already available (Speight, 2011). Focusing on these

strengths (assets) rather than the weaknesses (risks and vulnerabilities) embodies a salutogenic approach. Salutogenesis, founded in the field of health promotion, considers both assets and risks, and stresses the elements which enhance systems functioning (Antonovsky, 1996; Lindstrom & Eriksson, 2010; Morgan & Ziglio, 2007). Application of the theory of salutogenesis to disaster management and organizational resilience is a novel approach that aids in identifying assets that can support adaptive response and rapid recovery, compared to traditional approaches which concentrate on vulnerabilities (O'Sullivan, Corneil, Kuziemy, & Toal-Sullivan, 2014a).

The objective of this research is to build the empirical evidence base for business continuity planning and organizational resilience, and to provide information for decision-makers to facilitate the development of BCPs, using an asset-based approach.

## 1.2 Research Questions and Objectives

This research explores, using a *salutogenic* lens, organizational assets and indicators for organizational resilience to contribute to the effective evaluation and engagement of organizations in business continuity planning efforts.

The specific research questions are:

1. What are important assets identified by essential service organizations that contribute to resilience in the event of a disaster and how can they be framed within the organization?

*Objective:* Identify assets within and external to an essential service organization that promote continued functioning and organizational resilience, and determine how these assets can be applied in relation to the framing of the organization.

2. What are potential organizational resilience indicators based on a salutogenic orientation?

*Objective:* Develop a list of organizational resilience indicators to assess the adaptive capacity of an organization that can be used to adapt to the demands of a disaster or emergency.

3. How can essential service organizations be engaged promoting business continuity planning?

*Objective:* Identify strategies for engaging essential services organizations toward the preparation of BCPs that link private and public sector initiatives.

### **1.3 Thesis Overview**

The thesis is organized as follows: First, a literature review is presented in Chapter 2. The literature review is divided into three sub-sections including organizational resilience and business continuity planning, organizational dynamics, and asset modeling. The thesis methodology used to conduct this study is presented in Chapter 3. The results are presented in Chapter 4, followed by the discussion and presentation of an emergent conceptual model in Chapter 5. Chapter 6 highlights the implications of this research, areas of future research, and the conclusion. Finally, a list of references and a set of appendices, including a sample consent form, interview guide, focus group guide, and ethics certificate, are included.

## **CHAPTER 2: LITERATURE REVIEW**

In this chapter, a review of the relevant literature is presented and terminology and concepts are defined and explained. In the first subsection, the concepts of organizational resilience and planning are explored, including the description of resources identified within the literature that promote organizational resilience. Emergency management, specifically business continuity planning, is also reviewed in relation to the resilience of an organization. A review of organizational dynamics, with emphasis on Bolman and Deal's (2008) four-frame model for organizational analysis, is discussed in the second subsection as the framework for data collection and analysis. Finally, the core literature for the theory of salutogenesis as an asset-based approach is presented as a related conceptual framework for this research.

### **2.1 Organizational Resilience and Planning**

Disasters provide reminders that organizations need to engage in planning activities to ensure their sustainability and survival, should an adverse event occur. Disasters, adverse events, and disturbances can refer to both natural and Chemical, Biological, Radiological, Nuclear and Explosive (CBRNE) events (O'Sullivan, Corneil, Kuziemy, Lemyre, & McCrann, 2013a). For this study, an "all-hazards" approach is adopted in relation to business continuity planning and organizational resilience. Organizational reliability is important for communities, given the interdependent relationship between a resilient organization and a resilient community (Lee, Vargo, & Seville, 2013; McManus et al., 2008). This relationship is due to the role of organizations in providing products and services, employment, and cash flow throughout the community (McManus et al.). Although all organizations, both public and private, need to engage in emergency planning activities, essential service organizations have a greater

responsibility to ensure continuity of functions and services as they play a critical role in community infrastructure and public health (Fenwick, Seville & Brunsdon, 2009).

Essential services are typically a class of services which governments set special restrictions on, such as the inability to strike. In Canada, the Public Service Labour Relations Act (PSLRA) (2003, c. C-49) defines essential services as “a service, facility or activity of the Government of Canada that is or will be, at any time, necessary for the safety or security of the public or a segment of the public” (Section 4.1). As this definition is restricted to services provided by the federal government, for the purposes of this study, we have expanded it to include services provided by organizations in the public and private sector which influence the safety, security and health of individuals and communities. Therefore, in this study, essential service organizations may include housing support, health and social services, financial aid, communication systems, or emergency services.

To enhance organizational resilience, business continuity planning has been presented as a strategy that organizations can adopt in their emergency preparedness agenda (McManus et al., 2008). In this section, an overview of the literature related to indicators of organizational resilience is described, including their relevance to the process of developing a BCP.

### ***2.1.1 Organizational Resilience***

The term ‘resilience’ originated in mathematics and physics as a technical term used to indicate how much energy a material can hold under strain before failing (Castleden, McKee, Murray, & Leonardi, 2011). The concept has since entered several disciplines that include ecology (Walker et al., 2002), engineering (Woods, 2006), and psychology (Antonovsky, 1996). Despite the varied use of the term, the concept of resilience can be understood across all fields of study as

the capability and ability of a system to return to a stable state after experiencing displacement (Bhamra, Dani, & Burnard, 2011; Norris et al., 2008).

In a disaster context, resilience refers to the ability of an individual, organization, or community to resist, absorb, adapt, and recover toward a better state following the disruptive event (Kahan et al., 2009; McManus et al., 2008). Increasingly, organizational resilience is recognized as an important strategy to promote community resilience, and organizational success and survival following a disaster (Bhamra et al., 2011; Lee et al., 2013). As defined by Burnard and Bhamra (2011), organizational resilience is “the ability [of an organization] to withstand systematic discontinuities as well as the capability to adapt to new risk environments.” (p. 5583).

Critical to this definition is the concept of adaptability. Within the ecological literature, adaptability has taken two different forms. The first form, “engineering resilience”, focuses on control and predictability, returning the system to one pre-defined state (Gunderson & Holling, 2002). The second form, “ecological resilience”, focuses on variability and unpredictability, allowing for many possible states that match the altered environment (Gunderson & Holling). Considering that organizations are complex, dynamic systems that are continuously changing, the second form of resilience is most applicable (Norris et al., 2008; Tyler & Moench, 2012; Young, 2010). It is therefore reasonable to suggest that an organization that is resilient will return to an adjusted state that matches the changed environment (“ecological resilience”) rather than resuming equilibrium (“engineering resilience”) (Young).

Several features of organizational resilience appear in the literature, however, much of the extant research is conceptual, and there are few empirical studies (Bhamra et al., 2011). Huber et al. (2012) propose a model to conceptualize organizational resilience that consists of four

dimensions: (1) commitment, (2) adaptability, (3) efficiency, and (4) awareness. Other features proposed to increase the resilience of an organization are leadership, communication, social capital, and organizational culture and structure (Castleden et al., 2011; Lewis, Donaldson-Feilder, & Pangallo, 2011).

Currently, research within the Resilient Organisations Research Programme in New Zealand focuses on developing tools to benchmark resilience (Lee et al., 2013). Their research program included an exploratory study of organizational resilience using grounded theory, where McManus et al. (2008) proposed that organizational resilience consists of three factors (situation awareness, management of keystone vulnerabilities, and adaptive capacity), each associated with five indicators. These factors were further tested and a new model of organizational resilience was developed, consisting of two factors: (1) adaptive capacity and (2) planning (Lee et al.; Stephenson, 2010). Each of these factors and their associated elements are described below.

#### 1) Adaptive Capacity

Adaptive capacity is acknowledged in both the socio-environmental and the organizational literature (Stephenson, 2010). McManus et al. (2008) define adaptive capacity in the organizational context as “a measure of the culture and dynamics of an organization that allow it to make decisions in a timely and appropriate manner, both in day-to-day business and also in crises” (p. 83). Adaptive capacity is composed of several elements which enable an organization to re-configure itself to match the altered or disturbed environment without major declines to critical functions (Lee et al., 2013). In particular, the aspects contributing to organizational adaptive capacity are predominantly intangible (culture and creativity) as opposed to the

structures and technology (Folke et al., 2002; Lee et al.). The eight elements identified for adaptive capacity are as follows:

*1) Minimization of silos* – A silo is a social phenomenon which closes off individuals, groups, and organizations from connecting and collaborating with each other. These barriers create a negative environment within an organization which prevents efficiency, communication, and creativity (Crichton et al., 2009; Stephenson, 2010). In addition, silos result in disconnect within the organization and plans and resources run the risk of being duplicated, resulting in unnecessary costs (Stephenson).

*2) Internal resources* – McManus (2008) explains an organization's internal resources in terms of physical, human and process resources. Physical resources include buildings, information systems, equipment and supplies, such as ventilators and vaccines (Duncan et al., 2011; McManus). To ensure proper access and availability of the physical resources, organizations are encouraged to duplicate resources at an alternative location (Crichton et al., 2009; Duncan et al.; Tyler & Moench, 2012). However, organizations often have unrealistic expectations for operating remotely, as well as a minimal understanding of the relationships between resources (McManus). Issues with human resources include recruiting and retaining staff, lack of succession planning, lack of formalisation of human resource planning, and lack of on-call staff (McManus). Lastly, process resources are standardized procedures and processes throughout the organization (Stephenson, 2010). Although there is standardisation, organizations may not conform to the processes which highlight the importance of having flexible and well communicated procedures (Crichton et al.; McManus). Beyond having the resources, organizations need

to be concerned with their ability to access, mobilise, and utilize the resources to their maximum capacity (O'Sullivan, Kuziemy, Corneil, Lemyre, and Franco, 2014b; Stephenson; Tyler & Moench).

**3) *Staff engagement and involvement*** – Engaging staff through training activities and discussions can empower staff to build their self-efficacy and use their skills to solve problems (Crichton et al., 2009; Stephenson, 2010). Further, engaging everyone in decision making activities and having diffuse power throughout the organization permits staff to express their creativity when the organization is faced with a disaster (Stephenson).

**4) *Information and knowledge*** – During a disaster, it is critical for organizations to share and communicate information and knowledge effectively within the organization as well as with external key stakeholders (Crichton et al., 2009; Norris et al., 2008). McManus (2008) highlights two important features of information and knowledge. First, the ability of staff to move around the organization and be trained in other positions allows them to step outside their roles to fill other key roles in response to a disaster (McManus; O'Sullivan, Kuziemy, Toal-Sullivan, & Corneil, 2013b). As well, learning new roles helps to retain the knowledge and information in the organization (McManus). Second, information should be stored in a number of formats and available at several locations to ensure accessibility (McManus).

**5) *Leadership*** – Strong leadership during a time of crisis involves leadership visibility, leadership availability, and decision making transparency (McManus, 2008; Tyler & Moench, 2012). When leaders are visible and available, staff are able to communicate

directly with leaders (McManus). Decision making transparency is critical as it evokes trust and is important to ensure that it is supported with effective internal communication (McManus; Tyler & Moench). Leadership within an organization usually falls upon management; however, top managers are not necessarily the leaders (McManus; Norris et al., 2008). Rather, leaders can be cultivated from middle managers as they may have the respect and trust of staff and therefore have greater social influence (Norris et al.).

**6) *Innovation and creativity*** – Innovation and creativity are what lead to improvisation and emergence of processes that did not exist before (Stephenson, 2010; Tyler & Moench, 2012). This is of particular importance during a disaster when existing processes may not be possible (O’Sullivan et al., 2014a). Encouraging staff to use their knowledge in novel ways can result in innovative and creative solutions for solving problems (Stephenson).

**7) *Decision making*** – During a disaster, the speed and responsiveness of decision making is critical. To ensure rapid response, staff members require decision latitude to make immediate choices regarding their work (Stephenson, 2010). Staff should be permitted to partake in decision making discussions when their specific skills and knowledge can add substantial value to the decision, or they can aid in implementation of the decision (Legnick-Hall et al., 2011; Stephenson). Individuals involved in decision making processes should be considered based on their qualifications rather than just their hierarchical position (Legnick-Hall et al.; Stephenson).

**8) *Situation monitoring and reporting*** – Internal and external monitoring of the environment within and around an organization is important for developing situational

awareness (Burnard & Bhamra, 2011; Crichton et al., 2009; Stephenson, 2010). Encouraging staff to report both positive and negative aspects of the organization is also important as it can provide early warning signals for crisis (Burnard & Bhamra; Stephenson). It is not only important to gather the information, but to relay it to others. Information collected from monitoring activities can be shared throughout the organization using documents, memos, emails, or meetings (Stephenson). Several methods of sharing are used to ensure the information is being received and understood, which enhances everyone's situational awareness.

## 2) Planning

Planning activities need to consider the organization prior to, during, and following a disaster. Stephenson (2010) identified five organizational resilience indicators related to planning, as explained below:

**1) *Planning strategies*** – Stephenson (2010) highlights four broad planning strategies: Business continuity, crisis management, emergency planning, and risk management. McManus (2008) found that organizations who do invest in planning activities focus on specific types of events. An all-hazards approach is ideal in that it allows the plan developed to be adopted in any context or disaster.

**2) *Participation in exercises*** – Exercises are designed to test procedures and equipment outlined in a plan, validate the plans and training, and to practice the plan (Duncan et al., 2011; Kerr, 2007; Stephenson, 2010). There are several types of exercises that range in level of commitment and resources, such as simulations, table tops, structured walkthroughs, and checklists (Professional Evaluation and Certification Board [PECB],

2012; Stephenson). Once an exercise is complete, post-exercise debriefs should include the identification of lessons which can be incorporated into the plans (Stephenson). However, organizations have been found to focus predominantly on fire evacuation drills with little attention being paid to other types of disruptive events (McManus, 2008). This imbalance is due to the reluctance of organizations in allowing more involved exercises as they can impact present day-to-day operations (McManus).

**3) *Proactive posture*** – A proactive posture within an organization that is committed to resilience is mindful and engages in self-evaluation (Stephenson, 2010). This posture needs to be embedded within the vision and core values of the organization to promote a collective mindset and shared sense of purpose among individuals (Lengnick-Hall et al., 2011). Encouraging a strong unity of purpose promotes team spirit and enthusiasm when confronting a crisis, which will stimulate problem solving and action (Lengnick-Hall et al.). A proactive posture also promotes an organizational awareness of early warning signals in the internal and external environment that allow the organization to respond to crises before they escalate (Stephenson). A proactive posture can impact the strategy that is adopted and therefore the success of the response to a disaster (Stephenson).

**4) *External resources*** – On a daily basis, organizations are interacting with external parties, relying on products and services to continue normal operations. Understanding these relationships is important in times of crises and allows organizations to plan their response according to access to external resources (Duncan et al., 2011; Lewis et al., 2011; Stephenson, 2010). If an organization's own resources are affected during a disaster, it will need to reach out to partners and/or networks for resources (Stephenson).

In addition, consideration of where it falls on the external organization's list of priorities is important (Duncan et al.; Stephenson).

**5) *Recovery priorities*** – McManus (2008) noted that although organizations had a clear understanding of day-to-day operations, organizations rarely have an understanding of their key response and recovery priorities in relation to disasters. Examples of recovery priorities could include economic measures, service delivery, production or competitiveness (Stephenson, 2010). It is important to consider what is minimally required to continue operations during a disaster and throughout the subsequent recovery period (Duncan et al., 2011; PECB, 2012; Stephenson).

### ***2.1.2 Business Continuity Planning***

Business continuity planning has been defined by Public Safety Canada as “a proactive planning process that ensures critical services or products are delivered during a disruption” (2013, para. 5). Planning for business continuity involves the consideration of all phases of a disaster, and the tasks and strategies required for risk reduction, readiness, response, and recovery (Kerr, 2007; Speight, 2011). Continuity planning is vital for essential services as they need to continue to provide services to the public to ensure their health and safety. In addition, planning is seen as a critical component to the survival of a business following a disaster (Duncan et al., 2011).

Following a disaster, there is a disproportionate focus on businesses that fail compared with businesses that succeed (Duncan et al., 2011; Lee et al., 2013). Thus, there are few examples which demonstrate the value of a BCP from a success standpoint. One example of successful business is of Childs Capital LLC following the events of 9/11 (Duncan et al.). Childs Capital LLC was a business located in New York near the World Trade Center. The business attributes

its survival to the contingency plans in place prior to the event, which included having their data backed up off-site and the ability to access it remotely (Duncan et al.).

Although there are some success stories, BCPs are predominantly promoted to businesses from a failure standpoint. In a video displayed on FEMA's website, it is highlighted that almost 75% of businesses without a BCP will fail within three years following a large scale crisis or disaster (Skolnik, 2012). Primarily focusing on failures, and identifying what went wrong, highlights the needs within an organization, for example, the need for staff, money, and physical resources. Organizations focusing on needs are at risk for "asset blindness" as they are unable to identify what they already have and what they have done well (O'Sullivan et al., 2014b).

Despite the importance of BCPs, barriers exist which interfere with organizational investment of time or resources for BCPs (Duncan et al., 2011). There are several reasons for this. Disasters are considered low-probability events making it difficult for organizations to see the value in investing time, money, and staff for planning activities, if there is no payback (Duncan et al.; PECB, 2012). As well, organizations often have more current problems which need immediate attention and resources (Duncan et al.). Finally, many organizations have 'risk blindness' and fail to believe that an internal or external disruptive event could bring normal organizational operations to a halt (Speight, 2011).

To help organizations in building BCPs, several standards have been developed worldwide. Some of the well-known standards include: ASIS International, ASIS SPC 1-2009; Australia/New Zealand Standard, AS/NZS 5050; British Standards Institute, BS 25999; Canadian Standard, CSA Z1600; and National Fire Protection Association, NFPA 1600:2010 (PECB, 2012). In 2012, due to a global interest in having a single international standard, the

International Organization of Standardization introduced ISO 22301, *Societal security – Business continuity management systems – Requirements* (PECB).

As seen in the existing standards, business continuity planning is a process which involves several steps oriented toward creation of an individualized plan for the organization. It is important to note that BCPs should not be approached as a one-size-fits-all document. Plans and strategies need to be developed that are appropriate for the organization. Although each standard is different, in general, business continuity planning involves an understanding of the organization, and can be achieved by conducting a risk assessment and business impact analysis, selecting strategies and developing a plan, and testing and evaluating the plan (Kerr, 2007; PECB, 2012; Tammineedi, 2010). A white paper on ISO 22301 produced by the Professional Evaluation and Certification Board in 2012 provides a comprehensive overview of key business continuity elements of some of the well-known standards (p. 8). Overall, business continuity planning can be summarized into a three-phase life cycle: 1) Identification; 2) Strategy Selection and Plan Development; and 3) Testing and Evaluation.

The purpose of the identification phase is to understand and identify the risks and assets of the organization. However, current practices focus predominantly on the identification of risks by conducting Risk Assessments and Business Impact Analyses (BIA) (Develen, 2009; Kerr, 2007; PECB, 2012). Despite the importance of assets, it appears that there is a disproportionate emphasis on the risks posed to the organization. It is not to say that risks do not provide valuable information, rather there needs to be a balance between the two, and more research needs to be conducted on assets to redress the balance.

Once information is gathered from the identification phase, it is used to direct the selection of strategies and plan development (Kerr, 2007; PECB, 2012). As it stands now, strategies are selected based on information gathered from the BIA, which is focused on risks. The BCP developed, is a written document outlining procedures to be taken in the time of a disaster to ensure the continuity of critical functions and activities (PECB). The plan must consider all aspects of a disaster, including prevention/mitigation, readiness, response, and recovery (Kerr; Speight, 2011).

The final phase in the life cycle involves testing and evaluation of the plan. The purpose of this phase is to determine if the plan is valid and achievable (Duncan et al., 2011; Kerr, 2007; PECB, 2012). Exercises vary based on resources and commitment, ranging from a checklist, with minimal time and resources required, to a full interruption, which is the most costly and time consuming (PECB). The importance of testing is illustrated by municipal, provincial and federal governments adopting legislations which require mandatory training and exercises. The *Emergency Management and Civil Protection Act* (1990) in Ontario states that emergency management programs developed by the municipality must consist of “training programs and exercises for employees of the municipality and other persons with the respect to the provision of necessary services and the procedures to be followed in emergency response and recovery activities” (Section 5.1). In addition, the municipality is required to review and revise its emergency plan every year (Emergency Management and Civil Protection Act, 1990). Overall, the testing of the plan is critical, as strengths can be identified and weaknesses can be addressed in debriefs and subsequent revisions. As such, the information collected is filtered back into the business continuity planning life cycle and the process will start over.

Prior to a BCP being developed, key components are identified which are critical to the initiation and maintenance of the process. First, a program coordinator needs to be identified and take responsibility for developing, implementing and administering the BCP (Duncan et al., 2011; Tammineedi, 2011). Second, a team must be created to steer continuity planning activities (PECB, 2012; Speight, 2011; Tammineedi). To ensure all aspects of the organization are considered, the team should be composed of key stakeholders representing different departments and levels of authority within the organization (PECB). This team is also critical in identifying the key operations of the organization. Finally, the BCP needs to be accepted and supported by leadership as it demonstrates organizational commitment to all BCP activities (PECB). In addition, involvement from top management can help garner resources and support from staff (PECB).

Business continuity planning has been suggested as an important strategy for promoting organizational resilience. Several standards have been developed worldwide to guide organizations in developing their own tailored plan. Despite the differences in the overall processes seen within the standards and literature, business continuity planning can be summarized into three steps: 1) Identification; 2) Strategy Selection and Plan Development; and 3) Testing and Evaluation. In addition, it was highlighted that key elements must be in place throughout the process, such as leadership, teams, and organizational support. In trying to understand the development of BCPs, it is important to acknowledge that they are being developed in the dynamic environment of an organization. In the next section, we will explore organizational dynamics and a framework which can be used to view the system.

## **2.2 Organizational Dynamics**

Organizations have been conceptualized as complex systems. Burnard and Bhamra (2011) define an organizational system as being “composed of a complex network of interrelated elements and sub systems (composed of both social and technical components) that interact through nonlinear relationships to form an organisation’s unique identity” (p. 5583). It is the nonlinearity of the interconnected agents and subsequent network of linkages which give rise to emergent behaviour and results in organizations being viewed as dynamic systems (Burnard and Bhamra). As such, it is important to understand the dynamics of the emergent behaviours within the organization which arise from changes in the external environment, such as disasters, in order to understand what contributes to resilience (Burnard and Bhamra).

Over time, organizations change as they grow and adapt to new environments. Young (2010) identifies five emergent patterns of change within regimes: (1) Progressive development, (2) punctual equilibrium, (3) arrested development, (4) diversion, and (5) collapse (p. 8). Here, these patterns of change are described in terms of organizations. Progressive development occurs when an organization begins at a well-defined initial state and steadily progresses without any major challenges. Punctual equilibrium refers to the ability of an organization to maintain a relatively stable state. For example, when an organization is faced with periods of stress it will be followed with periods of capacity building to bring it back to the original state. Arrested development refers to when an organization starts on a positive note but then begin to encounter barriers and obstacles which block development. Diversion occurs when an organization is created for one purpose and later is redirected to do the opposite of what it intended. Finally, organizations that

experience a collapse have crossed a threshold resulting in premature closure or severe decline (Young).

To explain the patterns of institutional change, Young (2010) refers to endogenous-exogenous factors. Endogenous factors are the attributes of the organization itself, such as: “position on the hard law-soft law continuum; decision rules; flexibility; monitoring, reporting and verification procedures; administrative capacity; resources/funding mechanisms; and amendment procedures” (Young, p.15). Exogenous factors are those which are located in the settings where the organizations are located, such as: the current political system; technological innovations; emergence of new actors in the issue area; shifting paradigms or discourses; and changes in biophysical systems (Young). To understand change and organizational dynamics, organizations need to be viewed as complex adaptive systems and beyond the individual factors.

Bolman and Deal (2008) provide a framework for viewing organizations from a holistic point of view, taking into account several of the elements identified above by Young (2010). Four frames are used to view and analyze organizations: Structural; human resources; political; and symbolic. In the four-frame model presented by Bolman and Deal, frames are described as mental models encompassing a set of ideas and assumptions that one carries around in their head about the organization. Terms such as lenses, orientation, tools, maps, and perspectives can be used interchangeably for the term “frame” (Bolman & Deal). The purpose of having several frames is to provide individuals with tools to navigate an organization (Bolman & Deal). In addition, in order to properly use frames, individuals need to be able to match an appropriate frame to a circumstance or break from one frame and adopt another (Bolman & Deal).

The four frames proposed by Bolman and Deal (2008) allow for a way to unpack the complexity of organizations, by providing different ways to view a situation. This framework may also be used as a way to identify and understand assets. For example, leadership as an asset may be viewed differently through each frame. Using a human resource frame, leadership is useful for empowering employees while a political frame might highlight the importance of leadership in coalition building. The four frames are discussed below.

### ***2.2.1 Structural Frame***

One of the most popular ways of looking at an organization is through a structural frame. The structural frame emphasizes the architecture of the organization, the technology available, roles of individuals, coordination, and horizontal/vertical relationships. The purpose of structure is to allocate roles and responsibilities to ensure activities of the organization are accomplished. Once the division of labour is specified, organizations set in place rules, policies, and procedures to accomplish specified goals and activities (Bolman & Deal, 2008).

Structure is commonly portrayed through organizational charts which are used to depict the chain of command. The structure selected should match the organization's environment and technology available. Coordination of activities is essential for organizational success. Organizations will tend to coordinate themselves using both vertical and horizontal procedures. Vertical coordination involves the traditional top-down, chain-of-command approach. This approach uses higher levels to coordinate work by delegating authority to individuals (executives, managers, and supervisors) and by establishing rules, policies and procedures. Horizontal (lateral) coordination is achieved when peers are able to communicate in an informal manner, such as meetings, task forces, coordinating roles, matrix structures, and networks. Both

vertical and horizontal coordination have benefits, and depending on the environment one may be better than the other (Bolman & Deal, 2008).

A final aspect of the structural frame is about the control, how tightly or loosely the organization is held together. A loose structure allows for flexibility and autonomy while a tight structure allows for direction. If a structure is too loose, staff may feel isolated, unsupported, and may deviate from their initial work because of lack of feedback. On the other hand, if a structure is too tight, excessive interdependence may be created causing unnecessary time spent on coordination and workarounds (Bolman & Deal, 2008).

### ***2.2.2 Human Resource Frame***

The human resources frame views the organization as an extended family and focuses on the relationships between individuals and the organization. There is a reciprocal relationship between the organization and its individuals. Organizations need staff for their energy, skills and knowledge, and individuals need the organization to achieve intrinsic and extrinsic rewards, such as money, benefits, and feelings of accomplishment and success (Bolman & Deal, 2008).

This frame focuses on the people and highlights that individuals have needs, feelings, skills and limitations which can all impact their fit with the organization. The human resource frame highlights the importance of ensuring individuals feel good and satisfied with what they are doing. In turn, satisfied employees benefit the organization by providing the energy required to help the organization succeed. In particular, the success of the organization relies on their ability to provide an appropriate work setting and their ability to retain staff. To accomplish this, organizations can focus on hiring the right people, providing professional development

opportunities, allowing for the autonomy to redesign work, and allowing for staff to participate in decision making activities (Bolman & Deal, 2008).

### ***2.2.3 Political Frame***

Organizational politics are complex but necessary for the organization to succeed. Despite the negative connotations with politics, they are necessary for obtaining power and resources. Using the political frame, Bolman and Deal (2008) describe organizations as “coalitions composed of individuals and groups with enduring differences who live in a world of scarce resources” (p. 209). The political frame addresses topics such as power and conflict, coalition building, political skills, and the internal and external political environment (Bolman & Deal).

Power is a key resource for accomplishing aims and acquiring scarce resources. Power is typically associated with authority; however, several other sources of power exist, such as control of rewards, coercive power, information and expertise, reputation, personal power, networks, control of agendas, and control of meaning and symbols. Various forms of power mean that the traditional authorities have to compete for scarce resources (Bolman & Deal, 2008).

Political dynamics can be destructive or beneficial to an organization. Effective political leaders within an organization know how to assemble an agenda, map the political environment, establish connections and a network of support, and negotiate. In addition, organizations have to consider both internal and external politics. Internal politics can foster competition for divergent interests and agendas. Organizations participate in external politics as agents with their own agendas and can develop competitive, collaborative, and interdependent relationships. Politics

are not to be ignored, but rather embraced, as an opportunity to establish power and resources both within an organization and in a community (Bolman & Deal, 2008).

#### ***2.2.4 Symbolic Frame***

The symbolic frame abandons the rationality of the other frames and depicts organizations as forms of culture and theater. This frame highlights the importance of developing a culture which provides meaning to work through rituals, ceremonies, stories, heroes, and myths. Organizations develop a culture over time which is rooted in the beliefs and values that appear to work and are passed on to new staff. It becomes the norm for how things are done and provides the organization with an identity (Bolman & Deal, 2008).

Organizations also operate as theaters, where staff play roles and customers become the audience that forms impressions of what is occurring on stage. If an organization puts on a good production, audiences are reassured of the organization's purpose and believe in the organization (Bolman & Deal, 2008).

Overall, organizations are complex adaptive systems made up of several elements and relationships. It is the behavioural elements that arise during times of change which can provide information on what contributes to an organization's resilience. Organizations can be viewed in several ways, and one lens captures the significance of an element from one point of view. Bolman and Deal (2008) provide four frames which allow for viewing elements in different ways, allowing for a single element to be reframed as an asset in several contexts. In the next section, an asset model is presented as the conceptual model for this thesis.

### **2.3 Asset Modelling**

The area of public health has undergone a philosophical transformation over the past 30 years, since the Ottawa Charter was constituted in 1986 (Eriksson & Lindstöm, 2008). The Ottawa Charter became the central document of the health promotion movement where “health was seen as a process enabling people to develop health through their assets and thus having the opportunity to lead a good life” (Eriksson & Lindstöm, p. 190). It was this document that set the stage for a movement from the traditional deficit (pathogenic) orientation that focused on risks and disease, to the alternative asset (salutogenic) orientation which focused on resources and positive health (Eriksson & Lindstöm; Lindstöm & Eriksson, 2006). Both deficit and asset-based models are necessary and provide a holistic view of the situation; however, much of the evidence base in public health is oriented within the pathogenic paradigm (Bringsén, Andersson, Ejlertsson, & Troein, 2012; Morgan & Ziglio, 2007; Tones & Green, 2004). The traditional deficit model, although important, focuses on problems and needs, creating an environment of dependence on services (McLean, 2011). This shift from a “pathogenic” to a “salutogenic” paradigm is necessary to enhance the participation of individuals, groups, and communities in their own health by focusing on strengths and resources so that they can identify problems and initiate solutions in a more sustainable way (Morgan & Ziglio).

Asset-based approaches provide a positive framework for health and focus on identifying health assets (McLean, 2011). Morgan and Ziglio (2007) define a health asset “as any factor (or resource), which enhances the ability of individuals, groups, communities, populations, social systems and/or institutions to maintain and sustain health and well-being and to help reduce health inequities” (p. 18). They also suggest that these assets can be found at the individual,

group, community, and/or population level and that they can come from across all domains of health determinants, including: genetic, social, environmental, behavioural and health services (McLean; Morgan & Ziglio). The asset-based approach draws on several existing concepts and theories, such as social capital (Putnam, 2000), resilience (Barnard, 1994), coping (Amirkhan, 1990) and self-efficacy (Lennings, 1994), to name a few (Morgan, 2012). The recognition and credibility of the health asset approach is enhanced by these empirically established theories that move beyond identifying risk factors and recognize the value of health-promoting resources (Morgan, Davies, & Ziglio, 2010). Despite this progress, there has been a lack of a coherent theoretical framework used to guide health promotion and evidence-based public health research (Antonovsky, 1996; Morgan & Ziglio).

To address this gap, Morgan and Ziglio (2007) proposed an asset model as a framework for synthesising evidence on asset-based approaches in a systematic way. This model aims to demonstrate the value of investing in assets and how it can help individuals, communities and organisations achieve optimal health (Morgan & Ziglio). In doing so, it has provided guidance in the advancement of asset-based approaches in policy, research and practice (Morgan, 2012). The asset model proposed by Morgan and Ziglio draws upon three existing concepts around theory, action, and evaluation. In the following sections, salutogenesis is described as the theory steering the evidence base, asset mapping is outlined as the intervention, and “salutogenic” indicators are explained as an approach to help with evaluation.

### ***2.3.1 Salutogenesis***

Salutogenesis is derived from the words “salus” (meaning “health”, in Latin) and “genesis” (meaning “origin”, in Greek), together referring to “the origin of health” (Lindström & Eriksson,

2010, p. 18). The salutogenic idea first originated in 1971 when Aaron Antonovsky, a medical sociologist, interviewed 1150 Israeli women who had experienced extremely stressful life events, some of them while living in concentration camps during the Second World War (Hanson, 2007; Lindström & Eriksson, 2010). Antonovsky found that some women, despite living through the Holocaust, coped well and managed to remain healthy (Lindström & Eriksson, 2010). This prompted the ‘salutogenic’ question of what creates health (Lindström & Eriksson, 2006). Antonovsky described his theory on the basis of a health continuum explaining that all people lie somewhere between “ease” (total health) and “dis-ease” (absence of health) (Lindström & Eriksson, 2010). The purpose of salutogenesis is to move in the direction of total health by taking on an orientation which concentrates on resources (Lindström & Eriksson, 2010).

To help build the salutogenic theory, Antonovksy developed two key concepts: General Resistance Resources (GRRs) and the Sense of Coherence (SOC) (Antovosky, 1996). GRRs are internal or external resources which can be either animate or inanimate, are found within a close or distant proximity to the person, and are used to help cope with life events (Lindström & Eriksson, 2010). In addition, GRRs are the prerequisites needed to obtain a strong SOC; however, it is not only about having them available, but about having the knowledge and ability to use and re-use them in a health promoting way (i.e., the SOC) (Lindström & Eriksson). The SOC is conceptualized as an orientation whereby life’s challenges are perceived as comprehensible, manageable and meaningful (Antonovksy; Bringsén et al., 2012; Eriksson, 2007). Another way of framing SOC is to describe it in terms of its contribution to asset-literacy, which is an environmental orientation that allows one to identify personal, organizational and community assets, understand their potential value and how they might be activated, as well as

having motivation and confidence to use them when needed (O'Sullivan et al., 2014b). When one has a strong SOC, the individual has the ability to identify confidently, use and re-use the GRRs (Lindström & Eriksson). Together, there is a reciprocal relationship between the GRRs and the SOC, where the GRRs help build the SOC, while at the same time the SOC helps one be aware of the available resources (Wolff, 1999).

It was the development of these two concepts that allowed Antonovsky to propose that salutogenesis be used to guide the field of health promotion in 1996 (Antonovsky, 1996). In his seminal paper, he argued that a salutogenic orientation is a superior guide for research and practice than the pathogenic alternative for several reasons. First, he argues that a health continuum is a more accurate conception of reality than the traditional pathogenic dichotomous classification of either being well or diseased (Antonovsky). This allows for programs to be developed which are built on the premise that everyone is in danger of ill-health and it is the responsibility of programmers to help individuals move in the direction of good health. At the level of the organization, the purpose of an intervention or program is to move the organization to a state of health, whether in terms of resilience, net worth, or productivity. Second, Antonovsky suggests that the term “salutary factors”, factors which actively promote health, be used because it is insufficient to suggest that movement towards health is on the basis of “being low on risk factors” (Antonovsky). Finally, he suggests that a salutogenic orientation prevents a focus on just the disease, and requires the health promoter to think in terms of all aspects of the individual when trying to move them in the direction of health (Antonovsky).

The salutogenic orientation is grounded on two key elements. Firstly, there is an emphasis on problem solving and finding solutions (Lindström & Eriksson, 2005). Secondly, it focuses on the capacity to identify and use the resources available (Lindström & Eriksson). These elements led to the adoption of the “salutogenic” approach in the asset model to steer the development of the evidence base (Morgan & Ziglio, 2007). Therefore, to help build the evidence base in the asset model, a salutogenic lens is used to identify health promoting factors needed to create health (Morgan & Ziglio).

### ***2.3.2 Asset-Based Approaches***

The second phase in the asset model is the action phase. In this step, asset-based approaches are employed to support the identification, collection and/or measurement of assets that individuals, organizations and communities have to offer (McLean, 2011). One of the key features is to identify existing capabilities and capacities and to build upon them (Morgan, 2012; Morgan & Ziglio, 2007). In doing so, individuals and organizations are more effectively able to make use of their assets in a sustainable way, compared to the deficits approach. Key assets which promote health, which are identified in the evidence base, help steer the asset-based approach in practice (Morgan). Understanding what needs to be achieved allows individuals and organizations to properly identify assets and develop creative solutions (Morgan). This understanding and generation of creative solutions was experienced by participants in the EnRiCH intervention, who reported enhanced awareness and motivation to act after participating in community asset-mapping intervention (O’Sullivan et al., 2014a).

Several methodologies for asset-based approaches have been developed. Examples of the alternative methodologies include (1) asset-based community development (ABCD) (Kretzmann

& McKnight, 1993); (2) appreciative inquiry (AI); and (3) participatory appraisal (PA) (Foot & Hopkins, 2010; McLean, 2011). Each of the approaches takes on the general aim to identify and mobilize assets and can be used together and in various combinations (McLean). Below is a brief explanation of ABCD, AI, and PA.

#### (1) Asset-based Community Development

The Asset-based Community Development (ABCD) approach has three driving characteristics. As indicated in its name, it is an asset-based approach which promotes the use of existing resources and identifying what is already present in the community rather than looking for the gaps or needs (Kretzman & McKnight, 1993). The ABCD method is also internally focused, acknowledging what is available in the local setting (Kretzman & McKnight). A final attribute of this approach is that it is relationship driven, focusing on the importance of building and rebuilding relationships in the local environment (Kretzman & McKnight). ABCD allows communities to mobilize their assets and solve their own problems (Morgan & Ziglio, 2007).

The ABCD approach is well-recognized and has been adopted by several communities and organizations worldwide. One organization, the Chicago Foundation for Women (CFW), realized that the principles of the ABCD approach, used to strengthen communities, could also be applied in organizational settings (Puntenney, 2000). Expanding on ABCD, the CFW developed the Sustainability of Health Organizations for Women in the 21<sup>st</sup> Century (SHOW-21) program (Puntenney). Further, they understood that research could provide insight as to the role of the organization in the larger community (Puntenney). The core components of the SHOW-21 program involves “deep thinking about the organization within its relational and community setting, systematic identification—or mapping—of organizational assets, and strategic

mobilization of these assets toward increased organizational sustainability” (Puntenney, p. 11). Although this approach was developed within women’s organizations, the basic model is deemed appropriate for any organization wanting to strengthen itself (Puntenney). Overall, the ABCD model and the SHOW-21 model demonstrate that the approach can be modified and applied in different scenarios, as long as the underlying principle is to build upon existing assets.

### (2) Appreciative inquiry (AI)

Appreciative inquiry (AI) is an asset-based approach which focuses on what was successful in the past within a group, community or an organization (McLean, 2011). The overarching principle is to learn from success and identify what works well (Foot & Hopkins, 2010). The process begins by framing the problem in a positive manner (Foot & Hopkins). Next, the group collectively discovers what works and what they can build on, identified by using appreciative interviewing and conversations (Foot & Hopkins). The group then begins to develop a shared vision of what might be followed, identifying what needs to be done in order to achieve this (Foot & Hopkins). Finally, a plan is developed to meet the desired outcome (Foot & Hopkins).

### (3) Participatory appraisal (PA)

Participatory appraisal (PA) trains local community members to research the opinions, knowledge and skills in their neighbourhood (McLean, 2011). The information collected is then used to aide in assessing the needs and priorities when developing future plans (McLean). This approach ensures that there is a shared vision for the future based on the needs and assets within the community.

### ***2.3.3 Assets Evaluation and Indicators***

The next step in the asset model is to evaluate the programs and initiatives that were implemented in the previous step, the action phase. The evaluation step is important for not only measuring the success of the program, but also in demonstrating that the asset-based approach is worthwhile to invest in (McLean, 2011; Morgan & Ziglio, 2007). In order to evaluate effectively, there is a need for indicators (McLean; Morgan & Ziglio). In a previous study on developing indicators for social resilience, Cuthill et al. (2008) adopted a SMARTT framework to review data for the development of indicators. As such, SMARTT refers to indicators being specific, measurable, achievable, reviewable, time-lined, and talking (Cuthill et al.).

Indicators are important for both evaluating the success of a program and for developing the “salutogenic” evidence base (Morgan & Ziglio, 2007). With this said, indicators are effectively a representation of what is considered successful, whether it is a resilient organization or a healthy individual. Therefore, the development of SMARTT indicators is critical for both the testing of the asset-based approach and for demonstrating its effectiveness (Foot, 2012).

The asset model developed by Morgan and Ziglio (2007) addresses the shift in thinking from a pathogenic perspective to one that is salutogenic and solution-oriented. It adopts a three-step approach used for the promotion of health: 1) understanding the evidence base; 2) implementing an asset-based intervention; and 3) evaluating the program using indicators. Although the asset model is promising for moving health promotion forward, there is a lack in the evidence base to support it. In particular there is a need for indicators to help evaluate the success of an asset-mapping intervention.

## 2.4 Summary

This literature review on organizational resilience and health promotion provided in Chapter 2 discusses: (1) Indicators for organizational resilience and elements of BCP; (2) a four-frame model for viewing organizations by Bolman and Deal (2008); and (3) asset-mapping strategies and the salutogenic orientation. The literature reviewed provides an important knowledge base that will help in the understanding and the analysis of organizational resilience within essential service organizations. The most critical finding of the literature review was the lack of empirical evidence in BCPs and organizational resilience. In particular, there is little empirical evidence supporting BCPs in promoting organizational resilience.

Overall, organizational resilience was identified as being imperative to both community resilience and the survival and success of the organization itself following a disaster. Of importance is the organization's ability to continue to provide services throughout a disaster. Business continuity planning is a strategy to ensure operations during a disruption and the promotion of organizational resilience. Evident within continuity planning, is the risk-based orientation focusing on potential risks and threats to the operations of an organization. Asset-mapping exercises have the potential to provide additional information that can allow for the identification of assets and capabilities already present within the organization. In order to gauge whether this strategy boosts an organization's resilience, SMARTT indicators must first be identified. Finally, due to the complex nature of organizations, a framework is necessary to help view the organization and help to identify assets and behavioural elements of the organization.

## CHAPTER 3: METHODOLOGY

This research is conducted as part of a five-year community-based participatory research (CBPR) project entitled: *Mapping Organizational Assets to Enhance Disaster Resilience: A Salutogenic Approach to Business Continuity Planning*. CBPR is a strategy used to engage community members, organizational representatives and researchers in a collaborative research process (Israel, Schulz, Parker, & Becker, 1998). This approach is viewed as an empowering process that can be beneficial in public health research (Israel et al., 1998).

The purpose of this thesis research was to explore, using a *salutogenic* lens, organizational assets and indicators for organizational resilience to contribute to the effective evaluation of business continuity planning efforts. In this chapter, the methodology adopted for the study will be explained and justified. The chapter is organized as follows: (3.1) Research design, (3.2) Case setting, (3.3) Data collection, (3.4) Participants, (3.5) Preliminary conceptual model, (3.6) Data analysis, (3.7) Trustworthiness and credibility, and (3.8) Data representation.

### 3.1 Research Design

This study used a qualitative approach to focus on understanding organizational assets and their relationships which can contribute to their resilience. The rationale for adopting this approach was threefold. First, as there is little empirical work on organizational resilience and business continuity planning in the literature, an exploratory approach was necessary. Second, a qualitative approach allowed for the flexibility needed to obtain a holistic understanding of the elements that enhance organizational resilience (Creswell, 2013). Flexibility in research procedures allowed for responding to unexpected problems and new insights (Lee, 1999). For

example, the ability to supplement the interview questions ensured new and potentially important information could be addressed. Third, a qualitative approach allowed the data to be grounded within a local setting, ensuring the data are holistic and context rich (Lee). This research is conducted in the Ottawa community, focusing on essential service organizations. Understanding the context of the community and participating organizations allows the reader to determine the transferability of the results from this case to another to assist organizations with building their capacity to enhance resilience (Creswell).

This qualitative research uses a case study format to obtain in-depth understanding of resilience within essential service organizations in Ottawa, Ontario. The case study format is advantageous as it engenders in-depth, rich descriptions, a high degree of contextualization, and detail of analysis (Creswell, 2013). To ensure this is achieved, multiple forms of data were collected, including data from interviews and focus groups. Two focus groups were conducted in Ottawa and each participant was asked to attend only one. In addition, each participant was interviewed prior to and following the focus group. In line with Eisenhardt (1989), the case was purposefully selected. Ottawa was chosen because of previous relationships with community partners that were connected with several essential service organizations. This partnership is crucial in generating interest and participation in the focus groups.

### **3.2 Case Setting**

Ottawa, the capital city of Canada, is the fourth largest city in the country with a population of 935, 255 (based on census data from 2012) (City of Ottawa, 2013). Located in eastern Ontario and bordering Gatineau, Quebec, the City of Ottawa hosts a unique language environment. Ottawa is the only officially bilingual city in Ontario, with English and French as its official

languages. This is in part due to the close proximity to Quebec and because the city houses many federal government offices. In addition, Ottawa is rich with other languages including Spanish, Italian, Portuguese, Chinese and Arabic (City of Ottawa, 2011).

Ottawa has a slightly younger population than the provincial average in 2001 with 11.5% aged over 65 and over, compared to 12.9% for the province (City of Ottawa, 2014b). However, a significant demographic shift is expected as the population ages. This shift will have an influence on the mixture of city services provided to the public. Currently, the City of Ottawa is ensuring its accessibility for individuals living with disabilities. In Ottawa, 17.7% or 149,425 people reported to have activity limitations in 2008 with about one-third of these individuals over the age of 65 (City of Ottawa, 2010). Activity limitations can include difficulties with hearing, seeing, speech, walking, learning or any other difficulty with carrying out activities (City of Ottawa, 2010).

Ottawa also has a unique workforce comprised of young individuals, a high percentage of workers with the ability to speak multiple languages, and a large number of residents with a post-secondary education (City of Ottawa, 2014a). With more than 25,000 employers and over 500,000 jobs, Ottawa has a robust, stable economy with a majority of jobs within the high technology sector and the federal government (City of Ottawa, 2006).

### **3.3 Data Collection**

#### ***3.3.1 Recruitment***

Recruitment for the thesis research data was conducted as part of the larger five-year research project. As such, ethics was already approved for this thesis by the University of Ottawa

Research Ethics Board on January 15, 2014 (see Appendix A - Ethics Certificate). Snowball sampling strategies were adopted for the recruitment of participants. The recruitment protocol consists of the distribution of a recruitment letter (Appendix B – Recruitment Letter) by the principal investigator (Dr. Tracey O’Sullivan) and co-investigator (Ms. Shannon Tracey) via email to community partners established during pre-consultations and from ongoing partnership relationships from The EnRiCH Collaboration (O’Sullivan, 2011). Recipients of the recruitment letter were asked to forward the letter to members in their networks who they felt may be interested in participating. An invitation notice was also posted on social networking channels, including Facebook® and Linked-In®. Interested participants were asked to contact the principal investigator (Dr. Tracey O’Sullivan) or co-investigator (Ms. Shannon Tracey) for more information or to volunteer to participate in the study.

For this study, approximately 20 participants were sought to be recruited from essential services organizations in both the public and private sectors. Broad inclusion criteria were used to represent essential service organizations. Essential service organizations were defined as public and private sector organizations which influence the safety, security and health of individuals and communities. These services may include housing support, health and social services, communication systems, financial aid, emergency management, or other essential services. Both management and staff were invited to participate to ensure diversity in the sample. Participants had to be 18 years or older and be proficient in English, as the focus group and interviews were conducted in English. Interested participants were asked to sign a consent form prior to participating in the study. (See Appendix C - Consent Form.) Each participant was asked to

attend one focus group and participate in two interviews, one before and the second following the focus group session. Two focus groups were held on March 25<sup>th</sup> and April 29<sup>th</sup>, 2014.

### ***3.3.2 Data Sources***

As recommended by Creswell (2013), multiple sources of data were used to inform the case study to provide the detail necessary to identify assets and indicators for organizational resilience. Data were obtained through (1) focus groups and (2) telephone interviews. Each source of data is described in more detail below.

#### **(1) SIM Focus Group**

Each participant was asked to participate in one focus group facilitated using the Structured Interview Matrix (SIM) technique (Chartier, 2002; O'Sullivan et al., 2014a), which can accommodate up to 40 people. Our lead community partner attended both focus groups. Focus groups are beneficial for co-generation of rich, interactive data in a relatively short period of time. However, there are many criticisms of focus groups. One criticism is that due to multiple people being present there is less time available for each participant to answer questions. It is also suggested that focus groups do not allow all individuals to participate as some people may dominate the conversation. The SIM format addresses the limitations of traditional focus groups as it allows for one-on-one interactions and plenary discussions (O'Sullivan et al.). In addition, the SIM format facilitates inclusive engagement and enhances awareness, common ground, solution-oriented thinking and motivation/intention to act (O'Sullivan et al.).

The SIM focus groups were two hours in duration and focused on four questions (See Appendix D - Focus Group Guide). In step 1 of the SIM process, participants were divided up into four groups and each group was assigned a question. There were six rounds of interviews where

participants were asked to conduct one-on-one interviews with individuals from each of the other tables. During this stage, participants documented the responses as field notes. In step 2, participants returned to their group and compared notes and discussed the responses they received to their question. During this stage, audio-recorders were placed at each of the tables where discussions ensued. In step 3, the whole group participated in a facilitated plenary discussion of each question. Again, the discussions were audio-recorded.

## (2) Phone Interviews

Semi-structured phone interviews were held with each participant prior to and following the focus group. Adopting a semi-structured interview protocol was important as it allowed for the flexibility to probe for more information or ask clarifying questions (Patton, 2002). (See Appendix E - Interview Guide.) Interviews were approximately 30 to 60 minutes in length and were audio-recorded. In addition, notes were taken by the interviewer and a summary of main issues and themes was typed up immediately following the interview.

## 3.4 Participants

Table 1 presents the participant tracking sheet used distinguish which focus group participants attended. A total of ( $n=23$ ) participants initially signed up and later one participant withdrew from the study. The interview data collected from this participant was not transcribed and has been destroyed. Accordingly, a total of ( $n=22$ ) participants were involved in the study. A total of ( $n=10$ ) participants attended the focus group on March 25<sup>th</sup>, 2014, and ( $n=10$ ) participants attended the focus group on April 29<sup>th</sup>, 2014. Our lead community partner attended both focus groups, and three participants were interviewed but did not participate in either focus group.

Table 2 presents participant demographics that were collected through telephone interviews and supplemental sign-in sheets at the focus groups. Participants provided information about the type of organization, the length of time they have been with the organization, their current job position, and the length of time they have been in that job position. To maintain confidentiality in the following table, participants are identified by the type of organization they work for, and the type of essential service it provides.

**Table 1.** Participant Tracking Sheet

<b>Participant</b>	<b>Interview 1</b>	<b>Focus Group</b>	<b>Interview 2</b>
P1	X	March 25 <sup>th</sup>	X
P2	X	March 25 <sup>th</sup>	X
P3	X	March 25 <sup>th</sup>	X
P4	X	March 25 <sup>th</sup>	X
P5	X	April 29 <sup>th</sup>	X
P6	X	March 25 <sup>th</sup>	X
P7	X	March 25 <sup>th</sup>	X
P8	X	March 25 <sup>th</sup>	X
P9	X		
P10	X	March 25 <sup>th</sup>	X
P11			
P12	X	March 25 <sup>th</sup>	X
P13	X	March 25 <sup>th</sup>	X
P14	X	April 29 <sup>th</sup>	X
P15	X		
P16	X	April 29 <sup>th</sup>	X
P17	X	April 29 <sup>th</sup>	X
P18	X		
P19	X	April 29 <sup>th</sup>	X
P20	X	April 29 <sup>th</sup>	X
P21	X	April 29 <sup>th</sup>	X
P22	X	April 29 <sup>th</sup>	X
P23		April 29 <sup>th</sup>	X

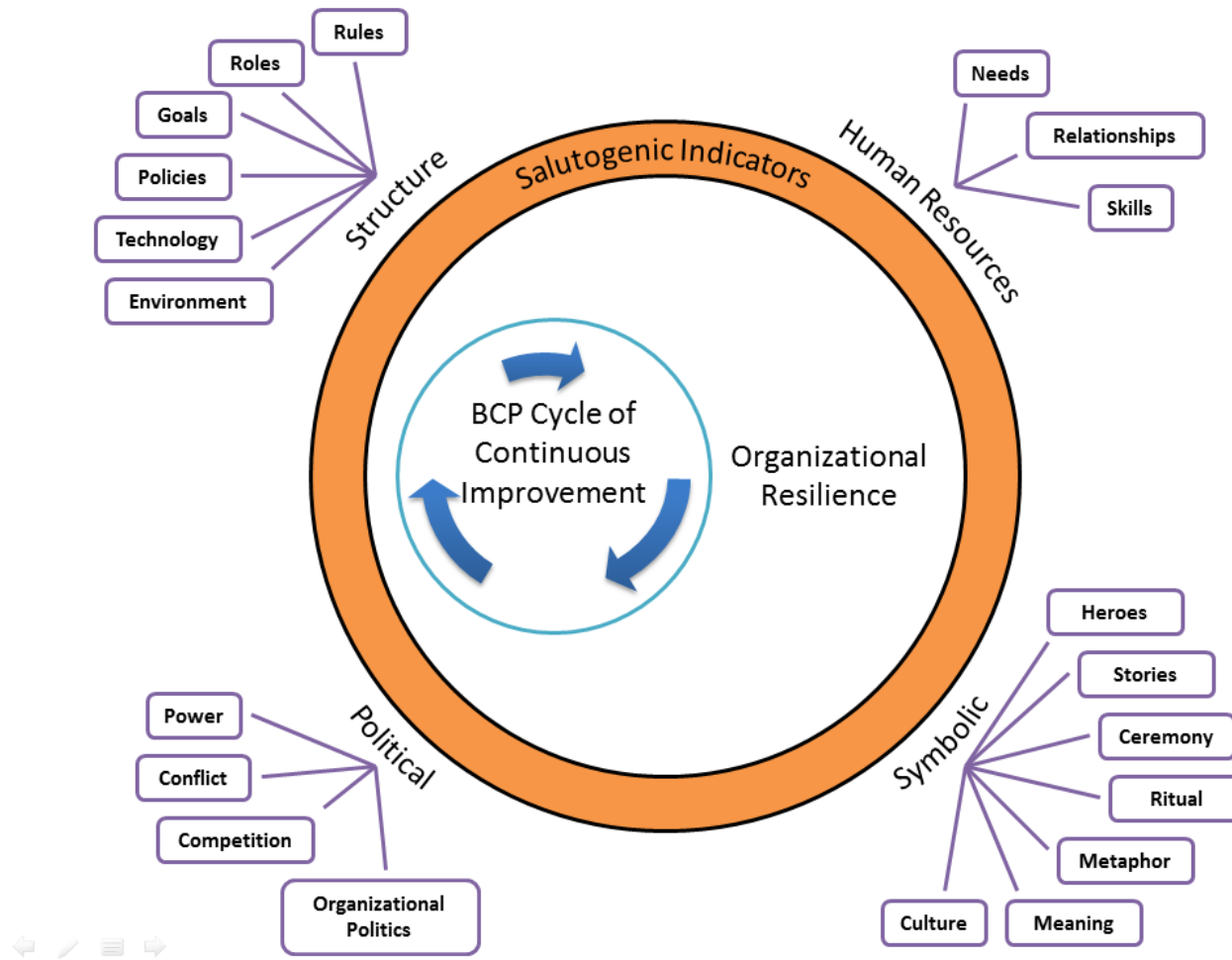
X = Participation in activity
Withdrew
Did not participate

**Table 2.** Participant Demographics

<b>Type of Organization</b>	<b>Job Positions</b>
Advocacy (n=1)	<ul style="list-style-type: none"> <li>• Social Worker</li> </ul>
Assistive Devices (n=1)	<ul style="list-style-type: none"> <li>• Chair</li> </ul>
Communication (n=1)	<ul style="list-style-type: none"> <li>• Executive Director</li> </ul>
Community Support (n=3)	<ul style="list-style-type: none"> <li>• Coordinator, Emergency Disaster Services</li> <li>• Program Manager</li> <li>• Shared Services Coordinator</li> </ul>
Consultant (n=2)	<ul style="list-style-type: none"> <li>• Hazard Analysis/Disaster Response</li> <li>• Preventative Medicine for Business</li> </ul>
Education (n=2)	<ul style="list-style-type: none"> <li>• Emergency Management Coordinator</li> <li>• Director of Risk Management</li> </ul>
Emergency (n=2)	<ul style="list-style-type: none"> <li>• Emergency Operations Directorate</li> <li>• Project Management Officer</li> </ul>
Home Care (n=4)	<ul style="list-style-type: none"> <li>• Manager, Quality, Safety and Risk</li> <li>• Case Manager</li> <li>• Owner</li> <li>• Social Worker</li> </ul>
Health (n=3)	<ul style="list-style-type: none"> <li>• Emergency Preparedness Health Specialist</li> <li>• Office Manager</li> <li>• Program Manager and Management Health and Safety Rep.</li> </ul>
Infrastructure (n=1)	<ul style="list-style-type: none"> <li>• Business Continuity Management Specialist</li> </ul>
Rehabilitation (n=2)	<ul style="list-style-type: none"> <li>• Project Lead</li> <li>• Manager</li> </ul>

### **3.5 Preliminary Conceptual Model**

The preliminary conceptual model below (Figure 1) demonstrates how the elements explained in the literature review are related and were used to facilitate data analysis. At the heart of this figure lies organizational resilience, the overarching focus of this study. Due to the detrimental effects a disaster can pose, organizations are encouraged to participate in activities to promote their resilience. One such strategy is business continuity planning. Within business continuity planning is a cyclical process of identifying risks and assets, creating plans, and testing and evaluating the plan. As part of this thesis, assets were identified which can help with strategies such as business continuity planning. The external ring represents the organizational resilience indicators based on a salutogenic orientation that were identified in the literature review. The purpose of positioning the indicators around organizational resilience and BCPs in this model is to show that the indicators are used to measure resilience, and in turn the effectiveness of BCP activities. Finally, the organizational system was viewed through the four frames presented by Bolman and Deal (2008): (1) Structural; (2) Human resources; (3) Political; and (4) Symbolic. Branching off each of the frames are the key elements that make up the frame. The four frames were used during analysis to help understand the value of the assets and their potential contribution to organizational resilience.



**Figure 1.** The preliminary conceptual model for the presented thesis research

### **3.6 Data Analysis**

Data analysis involved transcribing audio-recordings and notes, developing a coding grid, coding the transcripts, content analysis to identify emergent themes, and comparative analysis using the four-frame model (Bolman & Deal, 2008). Prior to coding, the audio-recordings from the focus groups and interviews were transcribed verbatim and checked by another research assistant working in the Resilience in High Risk Populations (RHRP) Research Lab, to ensure accuracy.

An inductive approach was used to identify emerging themes related to the assets and potential indicators (Hsieh & Shannon, 2005). A team of three researchers, the author, a supervisor, and a research assistant, inductively developed the coding grid for this study. Initial coding of the data was done to gain a comprehensive understanding of what was being said (Charmaz, 2006). Each researcher descriptively coded transcripts from interview one from P12 and P15. Descriptive codes were created inductively by sticking close to the data, requiring little interpretation (Miles & Huberman, 1994). Initial coding produced 219 descriptive codes. After duplicates were removed, synthesis and grouping of descriptive codes resulted in 11 abstract codes (Charmaz). Definitions and inclusion criteria in the coding grid were based on the development of each code, tracing back to the initial descriptive codes which led to the development of the abstract code.

A research assistant and I then tested the coding grid with two transcripts from P1 and P2. The coding grid was further refined to ensure the grid fit the data rather than the data being forced into the grid. The final coding grid which was used to code data from interviews and the focus groups consisted of the following codes: Adaptability, awareness, connectedness, culture, information & communication, motivation, organizational structure, people, physical infrastructure, plan, and preparedness & prevention.

Transcripts were uploaded using *NVivo10* qualitative software to facilitate coding (QSR International Pty Ltd., 2012). All interview and focus group transcripts were coded by the author of this study, using the coding grid agreed on by the team. Transcripts were coded incident-by-incident to allow for sufficient context when doing later analysis (Charmaz, 2006). To help ensure reliability, coding checks were done with one research assistant periodically throughout the entire process.

In addition, notes were taken during coding of the data, containing overall comments, assets identified by participants, interesting quotations, and how the frames were used. A note was made for each participant, summarizing the information from both interviews, as well as each focus group. The notes provided the initial basis for developing emergent themes. After reviewing the notes, the coding reports were analysed to further develop the themes and identify representative quotations. The purpose of identifying emergent themes was to understand the context for what makes an organization resilient. Next, specific assets were identified.

Organizational level assets contributing to resilience were identified alongside the theme analysis. Data from interview “question 7” and focus group “question 3” specifically addressed assets for organizational resilience. This data was analyzed to identify assets participants recognized that enhance the ability of the organization to sustain and maintain resilience. This list of assets was recorded in a table to develop a database of assets with documentation of how many participants acknowledged each one. This list was then linked to themes that described the functionality of the assets.

A final form of analysis involved overlaying the four frames presented by Bolman and Deal (2008) on the list of assets/themes. To help understand the different ways assets can be framed

within an organizational system, the four frames (Structural; Human Resource; Political; and Symbolic) were used as lenses to view the data. For this analysis, the list of assets was grouped into higher-level categories. Each frame was then used to understand the value of the asset in relation to organizational resilience. The rationale for linking the frames and assets was documented according to assumptions associated with each frame, as presented in Bolman and Deal. The list of potential indicators of organizational resilience was developed using the same steps, and reviewed according to the SMARTT framework.

### **3.7 Establishing Trustworthiness and Credibility**

According to Miles and Huberman (1994), researchers should strive for the shared standards of trustworthiness and credibility because qualitative studies are situated in the real world with real consequences. Therefore, various strategies to ensure the study is both trustworthy and credible are included in the proposed research as described below.

Trustworthiness of a study is broken down into two components: (1) objectivity/confirmability and (2) reliability/dependability/authenticity (Miles & Huberman, 1994). To achieve the necessary objectivity/confirmability of the study, a detailed explanation of the methods and procedures are provided (as noted above in subsections 3.1 through 3.5). Examples from the focus group quotations are also provided in the *Findings* section of the research to follow. In addition, any biases encountered while conducting the data analysis are clearly stated in order to reduce researcher bias. Further, regular meetings with the research supervisors were scheduled to reduce further bias. To ensure reliability, dependability and auditability, coding checks were done with a research team, including one research assistant (Creswell, 2013; Miles & Huberman). Intercoder agreement was established on the basis of consensus being reached

regarding code names and passages (Creswell). The role of the author in the focus groups is also described within the *Methods* section of the study.

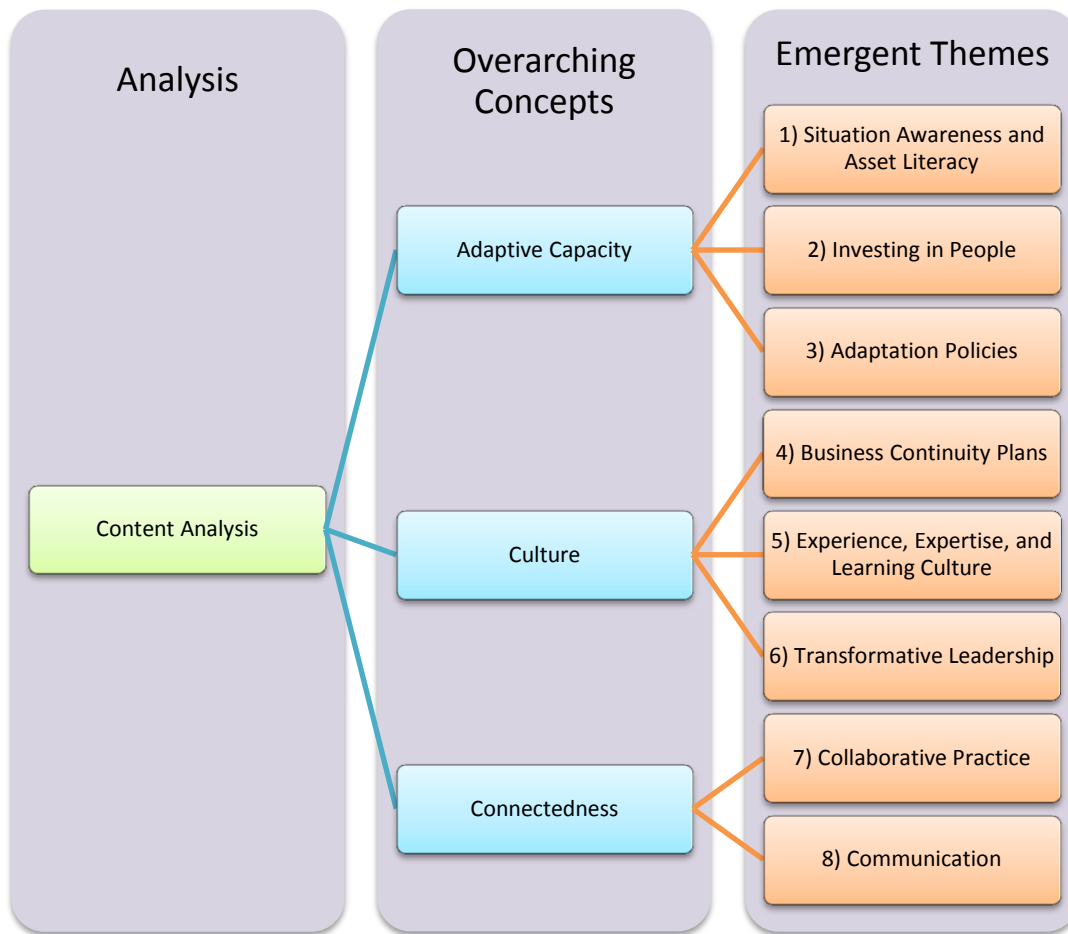
Like trustworthiness, credibility or validity of the study can be further broken down into two components: (1) Internal validity/credibility/authenticity and (2) external validity/transferability/fittingness (Miles & Huberman, 1994). To achieve internal validity/credibility/authenticity, the findings of the data were triangulated from the multiple data sources collected (Creswell, 2013). As mentioned earlier, data sources include focus groups and interviews. Rich, “thick descriptions” of the themes were provided through the presentation of detailed contexts for quotations used to support the emergent themes (Creswell). Finally, the validity/transferability/fittingness of the study was documented by providing a thick description of the context. A thick description allows readers to judge whether the findings have the potential to be transferable to their own situations (Miles & Huberman).

## **CHAPTER 4: RESULTS**

The following section is divided into three parts. First, themes are presented to explain what contributes to resilience for essential service organizations, based on this Ottawa dataset. In doing so, assets are identified and their functions are described. Second, using the four-frames, the value of assets is demonstrated according to each frame and potential asset-based indicators for organizational resilience are presented.

### **4.1 Emergent Themes**

This section describes the eight emergent themes identified from the data analysis. The first three themes focus on enhancing adaptive capacity, the next three themes are related to culture, and the final two themes focus on connectedness. The summary of the emergent themes by the three foci are presented in Figure 2 below. The discussion below on each theme presents extensive content analysis of the interview and focus group data. Each theme highlights organizational level assets contributing to the enhancement of business continuity and organizational resilience. A table identifying the key assets, along with definitions created inductively from the data, is presented at the end of each theme.



**Figure 2.** Outline of overarching concepts and associated themes emergent from qualitative content analysis

***Theme 1: Situational awareness and asset literacy contribute to organizational adaptive capacity***

Organizations are inherently complex and operate in continuously changing environments. Situational awareness across all levels (micro, meso, and macro), was highlighted by participants as it informs an organization about how to adapt to its current context, promoting resilience. For example, one participant explained the importance of being aware of changes in the home care sector in order to survive.

*“You need to look out, be aware of what’s happening in the—there’s changes happening in our sector. If you don’t pull your head out of [rural community] and look at what’s happening on a Provincial level or even on the Champlain level, I think you’re missing some pretty big information. Read your reports, attend coalition meetings, hear how the environment’s changing and structure yourself so that you can move along with it. If you want to be obsolete in five years, don’t ever look up.”* (Participant 1, Interview 2)

Participants also identified knowledge of organizational risks, threats, vulnerabilities, and needs as important for contributing to preparedness, prevention and mitigation strategies. For example, understanding the top hazards in the community of Ottawa, such as earthquakes, allows organizations to integrate targeted mitigation and prevention measures into their plan.

*“I sit at the emergency management working group, and we’re developing continuity of operations plans, and our next step is developing a comprehensive business continuity plan. That will be all of us sitting at the table identifying the top seven potential hazards for our city and outlining a plan for each of these hazards as to how we can maintain business continuity. So, that’s dealing with stakeholders internally and externally, training staff, and being aware of what impact those hazards will have on our city and how we can best mitigate those.”* (Participant 3, Interview 2)

Situational awareness is not limited to risks, and includes awareness of assets which can be activated during a response. Although awareness of assets contributes to the organization’s ability to be adaptive in a response, knowing what the assets are is only one component. Asset literacy (O’Sullivan, 2014b) refers to awareness of organizational assets (eg. staff), their value in a given context, how to mobilize them when needed, and having the confidence and motivation to activate them. The combination of these components contributes to an adaptive response.

At the focus groups, there were discussions around the role of the private sector. Some participants identified partnerships with private sector agencies as potential assets, as they could support a response financially, with human resources, or in terms of their connections with the community. However, there was a gap in moving from awareness about the value of the potential asset, to mobilizing the private sector to engage in activities.

*“We don’t have the infrastructure for private industry, for private organizations, they’re not engaged. I know during the power outage [one organization] donated a truckload of diapers to a community because they thought that would be a good thing to do. It wasn’t part of a plan. There are private foundations but we’re not tapping into that place. So, we’re really just starting with our private organizations and agencies as a beginning. There’s a lot of resources there that we haven’t been able to tap into.” (Focus Group, Round 3, March 25<sup>th</sup>)*

*“One of the questions [was] about “what do you see as the role of private sector”, and it just threw people. None of the organizations saw any role, or had ever thought of it and this is a huge resource waiting to be tapped. And in the United States it’s just completely different story, and in Canada we’re very slow to tap into that. ... [there are] companies with tons of stuff and manpower, and money just looking for good-news stories for the publicity, not to be cynical but you can tap into that. In order to really exploit that you need to tap into it ahead of time. You need to have agreements and know who to call, and what they can give you and what you’re going to need so it’s not useless stuff.” (Participant 12, Interview 2)*

In addition to demonstrating the importance of both being aware of an asset and activating it, this quotation also shows that an individual’s asset profile can change. The participant explained how other participants at the focus group had not been aware of the role of the private sector prior to attending. From the interaction during the SIM session, participants became aware of the private sector as a potential asset which they can relay to their organization, and in turn have increased their organization’s asset profile.

With a continuously changing context, situational awareness and asset literacy help steer an organization’s adaptive response. In addition, awareness of risks, assets, and the state of the environment enhances an organization’s ability to be proactive with preparedness and prevention strategies. Not all assets are known, and it is important for an organization to be open to potential assets and understand how to move from a state of awareness to activation.

Below, a summary of the assets discussed in this theme are presented in Table 3.

**Table 3.** Assets Associated with Theme 1 (Situational Awareness and Asset Literacy)

Asset	Description
Situational Awareness	Knowledge of the strengths, weaknesses, opportunities, and threats present at the micro, meso, and macro level of an organization
Asset Literacy	Awareness of assets, recognizing the value or potential contribution of the assets, knowing how to mobilize them, having confidence and motivation to activate them

***Theme 2: Investing in people enhances organizations' abilities for adaptive response***

Human resources were identified as primary assets within essential service organizations. Participants explained that human resources are necessary for carrying out tasks, and they emphasize that people who are responders within the health care field are dedicated and care about others. As a result, staff are motivated to take action and stay with their organization.

*“When I think of resilience I think of employees who work here wanting to work here as opposed to this being just a job, and I’m pretty sure we’re not just a job. People who work here are doing it out of genuine want and compassion, and wanting to be involved, as opposed to doing it for any other reason. It’s not a lucrative position. I think that’s one thing in terms of organizational resilience, people stick around.”* (Participant 5, Interview 1)

Participants also identified that investing in safety, personal fulfilment, and training promotes the ability of staff to perform their duties and be adaptive in their response. For example, personal preparedness among staff is encouraged so they are capable of attending work while knowing their family is prepared to adapt. Providing necessary equipment to fulfil roles, including personal protective equipment, demonstrates an organization’s respect for human resources. Finally, training and cross-training develops knowledge and skills to respond to unexpected situations.

*“I think our key asset—we don’t have a lot of stuff—our key asset is our people and the key tool that we use is knowledge. So, that they’re prepared, they’re knowledgeable, they understand what the possible potential risks are and the threats and consequences, and they’re prepared—they know what to do. They’re well trained and they’re knowledgeable about what can happen. They’re strong enough and that they’re knowledgeable enough that even when the unexpected happens it’s not going to throw them.”* (Participant 12, Interview 1)

It is the capabilities and skills of staff that enhance their ability to contribute to an adaptive organizational response. One participant suggested investing in exercises, such as a table-top, as a way to develop staff’s ability to think creatively if they are unable to access any resources. When referring to when the unexpected happens, participants highlighted the importance of creative staff being able to “think outside the box” and develop innovative solutions rapidly.

*“Creative staff, I think that would be the key thing. People who can think outside the box under time pressure. I know my staff is very good. We had a furnace break not too long ago. Everybody kind of figured their way through it without anybody needing to tell them what to do. They just did their work and got out to their programs. They couldn’t be in the office, it was too cold, so some people had to go to programs, some people worked from home, some people, did whatever they needed to do. They’re definitely hard working, creative staff.”* (Participant 1, Interview 1)

*“You have to be able to adapt to different situations. You can’t just be stuck thinking one way, you have to sort of think outside the box if different situations were to happen.”* (Participant 9, Interview 1)

*“The ability to... think outside the box... I guess my project I most often relate to is the retired person who was writing a book, but he had a bad back and was blind. So, we built a device to help him lay on his back on the floor and a device to hold his keyboard so he could lay on his back on the floor and type.”* (Participant 14, Interview 2)

Below, a summary of the assets discussed in this theme are presented in Table 4.

**Table 4.** Assets Associated with Theme 2 (Investing in People)

Asset	Description
Human Resources	The workforce is made up of a set of staff and/or volunteers
Engaged Workforce	Staff and/or volunteers are committed and dedicated to organizational success and/or community wellbeing
Internal Physical Resources	Tangible objects, such as equipment, technology, supplies, buildings, and vehicles, controlled or owned by the organization
Plan Awareness	A collective knowledge and understanding of emergency plans, including knowing roles and responsibilities during a disaster
Skills	Individual's abilities to think creatively and critically, and perform tasks acquired through training, experience, and/or exercises

***Theme 3: “The plan is important... but resilience is the ability of an organization to adapt itself and to modify its approach depending on what it’s being hit with.”***

Participants referred to plans being important assets to organizations because plans show thought and preparation towards disasters. However, it was also recognized that plans do not anticipate all situations, and flexibility is necessary to adapt to unexpected events. Plans, processes and policies provide a way to navigate operations and activities throughout a disaster. Preparations prior to a disaster can save time and allow for time to determine next steps.

*“When they had 9/11 there were organizations that never went down even though they were on the site because they had processes in place. And I think just having that confidence that you’ve got the first ten minutes or the first couple of hours, or five hours taken care of and then you can start into action. Where if you don’t have anything in place you’re just flummoxed, you don’t know where to start.”* (Participant 12, Interview 2)

In the event of increased needs or system failures, back-ups of equipment, data, information, communications, facilities, and staff were highlighted by participants to be important. For

example, a back-up generator was identified multiple times because of its critical role in maintaining minimum levels of operations. Testing and maintenance of back-ups is also necessary as one participant explained.

*“The emergency generator in all our big buildings, they all came on, they all got operated. But emergency generators are there to last 12 to 20 hours. One of the things that no one had ever factored in prior to that was the fact that you do testing every month of the emergency generator, but nobody registered the level of the oil. So, although you’re expecting 20 hours, all of the sudden you realize you only had six hours.”* (Participant 21, Interview 2)

Despite the value of planning and preparedness efforts, they cannot account for unexpected events. Flexibility of organizational structures and processes is a key asset identified, enabling organizations to adapt to new environments. Flexible processes can allow for quick and immediate decisions by both leaders and staff. Several participants explained the need for streamlining or limiting the bureaucracy during a response.

*“If you’re in an organization that has a lot of processes and bureaucracy, you have a board or you have a management group that have to—and you have to have three approval processes, six signatures and all this sort of stuff. Looking at the way that those can be streamlined and the processes made much more fluid and responsive during an emergency so that you’re empowering the people that have the ability and the training to make decisions that they can do without the bureaucracy because that gives you the flexibility and the adaptability. You don’t have time to go through the normal bureaucracy. And I think the bigger the organization the more bureaucracy that becomes entrenched in the way they do business.”* (Focus Group, Round 3, March 25<sup>th</sup>)

Flexibility of staff and resources is also important for shifting operations to core critical functions. It was explained that cross-training staff promotes knowledge of the organization and their ability to change or fill in roles, so when a disaster does happen they are capable of helping the area in need. In addition, reallocation of resources, such as equipment, to core critical functions allows the organization to capitalize on its existing assets.

Decentralization of staff and facilities was also mentioned as an asset to promote adaptive response. One participant explained that they have equipped their staff with technology to work outside the office to “allow them to work anywhere, anytime, anyplace” (Participant 12, Interview 1). Decentralizing operations to multiple facilities in different geographic locations also enhances adaptability, as illustrated in the quotation below.

*“Hands-down, I think the biggest factor that we have as the [organization] going for us, at least in Ottawa, is that we’re decentralized. We’ve got a building in the West-end, we’ve got [stores] throughout the city. Even my program vehicles, I keep them in two different buildings, one of them being a fire hall. We’ve got options. We’ve got tons of options in terms of where we work, what we do... Certainly a decentralized approach, hands-down probably the biggest thing we’ve got going for us. If we were the only [organization] in Ottawa, honestly I think we’d be in serious trouble.”* (Participant 15, Interview 1)

Several structural elements of an organization were deemed important for promoting resilience during a disaster, as seen in Table 5. Plans and back-ups favour a tight structure, while flexibility and decentralization are loose; however, both were identified by participants as important. This information suggests that a balance between the two is needed.

**Table 5.** Assets Associated with Theme 3 (Adaption Policies)

<b>Asset</b>	<b>Description</b>
Plans	Documents related to a particular circumstance, such as the BCP, emergency plans, and fire plans, which outline the processes and strategies to be employed should the circumstance arise
Processes & Policies	Processes are the steps to facilitate the achievement of a particular outcome, such as developing a BCP, or responding to a disaster. Policies are the formal statements providing guidance for decision making within organizations. In this context they are specifically related to preparedness, prevention, response and recovery
Flexibility	The ability of the organization to allow for change in processes, functions, and staff to adapt to the current context

Decentralization	The dispersion of an organization's services and resources (human and physical) away from a central location
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***Theme 4: Business Continuity Plans are living documents and when they are embedded in organizational culture they become 'the norm'***

Business continuity planning was identified by participants as important for promoting organizational resilience. However, for plans to be relevant, they must be continuously reviewed and updated. Plans are referred to as “evergreen”, “living and breathing”, and “organic”, representing changes in the organization and subsequent work that must be invested to ensure the plan's integrity, as indicated by this quotation:

*“The maintenance is something I just have to make a priority. I mean, it's a living, breathing thing, right? It's an organic thing. So, it needs to be up-to-date because we could change something as basic as our IT provider and if that doesn't get reflected in the business continuity plan, then who knows how long I will take us to contact our account rep.”* (Participant 15, Interview 1)

When the plan is embedded in organizational culture, updating the BCP becomes part of normal organizational practice. This means that the BCP is integrated into daily activities so when a change is made, the response is to update the plan. Conversely, this could also mean the plan is taken into consideration prior to making changes.

*“If we can get it as part of the culture that means every time something changes within a department... or service, or something like that might impact the plan, it's going to get known right away in advance or it even becomes part of the consideration when making changes. So when that is always on your mind, it's always considered when a change comes and the update would be automatic.”* (Participant 22, Interview 2)

Similar to the update being automatic, an organization's response to a disaster should also be automatic. Exercises facilitate practice, and promote awareness of the plan, knowledge of

collective roles and responsibilities, and provide an opportunity for members of the organization to become comfortable with the plan. Thus, when the BCP is activated, the response will be more reflexive, allowing the organization to shift from one mode of operation into another with ease. This concept is also emphasized through in-flight safety demonstrations and fire drills.

*“Our approach was similar to a fire plan in that exits are clearly marked, that we do rehearsals and drills, and that sort of thing, and that everybody knows their role. Why can’t we apply the same principle to business continuity? It should be simple and should be almost like a reflex by the time something happens.”* (Participant 15, Interview 1)

Fire drills are common practice within organizations and are considered a ‘normal’ experience throughout the year. Participants from organizations who activate their BCP often indicated a similar phenomenon occurs, and testing the BCP becomes normal practice.

Despite identifying the above information as important for organizational resilience, several participants indicated their organization does not have a BCP; it is viewed as an extra that draws on funding and human resources, which are limited. This is important as many participants suggest that there is already a struggle in surviving the day-to-day activities. A few participants noted that their organizations have designated staff for BCP but it is difficult to achieve buy-in from the whole organization. Thus, buy-in and resources are necessary for initiating and integrating BCP into the organization. In Table 6, the existence of a preparedness culture in an organization is presented as an asset.

**Table 6.** Assets Associated with Theme 4 (Business Continuity Plans)

Asset	Description
BCP	The document outlining processes and strategies to achieve business continuity throughout a disaster
Preparedness Culture	Preparedness activities are embedded into the everyday practices of the organization and are considered when making changes to the organization

***Theme 5: A culture which celebrates experience, expertise, and regards mistakes as opportunities for learning provides a safe environment for sharing information***

Information allows organizations to make critical decisions and develop and improve current practices. An organizational culture which accepts experiences, expertise, and mistakes facilitates the flow of information (see Table 7 for descriptions of assets). Experience with disasters provides valuable information about the level of preparedness of an organization. The organizations represented in this study ranged in levels of preparedness from having no plans at all and never considering it, to having plans and recognizing areas of improvement, or having plans and experiences that have confirmed the effectiveness of the plan. Regardless of the situation, lessons are learned, and if recognized by the organization, can allow it to adjust accordingly. Participants noted that embracing mistakes was important, as long as they were not made again. They also explained that lessons learned are identified in debriefs, however often no corrective action takes place.

*“Lessons learned is probably the catch phrase that is so overused because we don’t. Typically you see—when you see this little bit about lessons learned and from previous experiences they’re always the same, always the same. They keep coming up. We learned the same things which is obvious that we didn’t.”* (Focus Group, Round 3, April 29<sup>th</sup>)

A lack of experience with disasters or an effective response with minimal to no damage can promote a false sense of security. Participants explained that this can lead to a delayed development of plans or a belief that the City is responsible. However, a disaster occurring either within the organization or in a similar organization can trigger the development or initial thoughts of a BCP.

*“We don’t have an official business continuity plan in place. We do actually have a working group that is working on that due to a server went down when there was a flood and we had no internet access for three days. So that kind of triggered that we didn’t actually have a proper business continuity plan.”* (Participant 8, Interview 1)

Expertise is a valuable asset which can be used to aid in the improvement of plans and the response. Openness to expertise can allow an organization to recognize areas of opportunity. For example, a participant from the transportation industry explained how the area has extensive knowledge in communications which could be applied to a large educational institution. Expertise can also be recognized within the organization.

*“I think when you have a breadth of skill sets [in your organization], you can draw on that expertise during an emergency and say, ‘Okay, well, what would you do?’ And then come up with different ideas to deal with different scenarios. We have ... expertise in a whole bunch of different areas, engineering and whatever. It’s being able to draw on those resources and utilize them at the time of need.”* (Participant 21, Interview 2)

Organizations which encourage staff to demonstrate their skills create opportunities to learn and provide a safe environment which embraces mistakes. Training and exercises offer a controlled environment that allows staff to practice their skills and identify areas of improvement.

*“It’s kind of like learning an instrument in that you can’t just show up at a concert and pick up a guitar and expect to just kill it. You have to practice, you have to practice, and you have to practice. Training is key in that function because it gives you—I mean, it provides learning opportunities, it provides room for error in a controlled environment and also gets people thinking about things they typically don’t think about Monday to Friday, 9 to 5.”* (Participant 15, Interview 1)

A “no-blame, no-shame” culture is also important in providing a safe environment where staff can come forward with mistakes. However, some participants suggested punishment and embarrassment strategies to engage organizations in BCPs. Participants that supported an open and positive culture, explained that intervention strategies aimed at embarrassment and singling people out or shaming them are not going to encourage sharing behaviours after an event so that everyone can learn from mistakes. Participants explained that an organization which addresses mistakes as learning opportunities encourages staff to report gaps.

*“You might have a blame culture where people are punished when they make mistakes. You want to change that so there’s no-blame no-shame, the people will actually report on themselves because they believe that they didn’t intend to make the mistake. They were trying to do the best job they could. So, this might help someone else from making the same mistake. So you want to develop that kind of culture where people will report. And I don’t know if we discussed that, maybe we did and I just forgot, but it’s a really important aspect of business continuity where people are reporting on the mistakes they make. And it’s more resilient when people are trusting and communicating and sharing information. It’s one thing to react to a huge problem, but it’s much better to be proactive enough that in fact you have processes in place that reduce the likelihood of having to invoke your business continuity plan.” (Participant 20, Interview 2)*

**Table 7.** Assets Associated with Theme 5 (Experience, Expertise, and Learning Culture)

<b>Asset</b>	<b>Description</b>
Information	The content supporting organizational awareness, including details about the organization, including clients, staff, services, roles, or the situation
Learning Culture	An organizational environment which embraces and encourages individuals to share information, such as expertise, experiences, or mistakes, to improve the current processes and practices
Experience & Expertise	Experience is the knowledge acquired through previous encounters with a situation. Expertise refers to a specific set of knowledge or skills in a particular area, such as emergency management or communication systems

***Theme 6: Organizational resilience is supported by transformative leadership***

Transformative leadership is a model of leadership with a moral commitment to both the organization and stakeholders (Caldwell et al., 2012). This form of leadership was mirrored throughout discussions in interviews and focus groups. Leadership was identified as a key asset necessary for supporting business continuity planning efforts, staff, and a learning culture, as well as demonstrating commitment to organizational success by investing time to understand the whole organization and making informed decisions. The identification of transformative leadership as an important style emerged from the combination of participants' comments, and will be explained in the results below in terms of leadership commitment to stakeholders and the organization, while also recognizing the value of others.

BCP "buy-in" from senior management is important for supporting the integration of BCP into organizational culture. However, top leadership acknowledging the plan must be followed with action. As one participant explains:

*"It comes down to the leadership. For me that's what it is. It needs to be a priority, not just in words, but in action. They need to have the resources [and] they need to have the funding available to commit those resources to developing these plans. And that comes from the top. And they need to be convinced that it's worth it." (Participant 22, Interview 2)*

Transformative leadership demonstrates commitment to the stakeholders through, for example, financial support while also investing in the organization's long-term survival. Transformative leadership is also about knowing the value of others and providing them with opportunities to succeed. In the event of a disaster, many leaders arise and it is the responsibility of senior leaders to recognize their role and the roles of other leaders during a response. Participants explained

that senior leaders, such as the CEO or president, are there to motivate the organization and speak with the media, while allowing the designated incident commander to direct the response.

*“It’s a very conflictual situation, and technically a president should be there to support people, he should be there in front of the camera saying, ‘Yes, we’ve gone through this terrible event, and we’re sorry for the loss’. But he’s there to boost the people’s moral and to get things going, but he’s not there to manage the event. To me that’s something that sounds so small in the whole context of this, but it’s crucial in the way things are managed in situations during emergencies.” (Participant 21, Interview 1)*

Senior leaders who do not allow room for others to lead can trigger confusion and interrupted response. One participant explained, a senior member was detrimental to the response as they demonstrated their power, stopping an evacuation.

*“There was also an issue with the chain of command. Halfway through our evacuation it was called off by somebody more senior and the person senior on this site did not know who or why, so that didn’t go well. And also our fire alarm was pulled partway through the evacuation which also caused some more confusion. We had an evacuation about five years ago that went much smoother actually and we had less staff.” (Participant 6, Interview 2)*

Respecting the decisions of the individual running the response helps reduce confusion. The leader of the response must also demonstrate transformative leadership, acknowledging the values of others and making decisions that benefit stakeholders and the organization. For example, staff have important roles in adopting BCP into the organizational culture, as they are responsible for engaging in BCP exercises and training activities. The incident commander, designated to lead the response, must recognize and empower champions to cheer on the program. The incident commander also has an important responsibility of making timely decisions during an event.

*“You have to have leadership that can function under stress, make good decisions, and make them quickly, and stand by them, and not defer, delay, ponder, send a committee. Do all those things, all those delaying tactics that are safety nets for people. So, you have*

*to have leadership somewhere in the organization that is comfortable in a crisis, in an emergency of making decisions, standing by them, and has flexibility to do things outside the box and differently in order to get through something.” (Participant 12, Interview 2)*

Should an error occur, one participant explained that leadership should acknowledge the mistake and assume responsibility, which can garner greater respect from stakeholders. As explained, transformative leadership is important for embedding the BCP into organizational culture, financially supporting preparedness activities which can benefit staff preparedness and organizational resilience, and motivate individuals to demonstrate skills (See Table 8 for description of assets). Overall, this form of leadership helps to support organizational resilience.

**Table 8.** Assets Associated with Theme 6 (Transformative Leadership)

<b>Asset</b>	<b>Description</b>
Transformative Leadership	A model of leadership that considers the well-being of all stakeholders as a moral commitment while also committed to organizational success
Financial Support	Money acquired through sales, fundraising, donations, and/or grants for the investment in training for staff, equipment, and BCP activities
Response Structure	The organization of roles, responsibilities, and chain of command to be activated for the duration of a disaster

***Theme 7: Collaborative practice requires awareness of the optimal balance between working with others and working alone***

Collaboration is a necessary, but strategic process contributing to a BCP. Participants discussed several areas of collaboration, recognizing the different levels and types of collaboration, as well as the timing of these interactions. It is the responsibility of the organization to recognize when to engage in collaborative activities and when to work alone to help ensure the best use of energy. Participants explained that collaboration occurs at different levels between: individuals

in the organization; departments in the organization; and the organization and external community partners. Collaboration provides a way to promote the sharing of resources, information, and expertise. For example, a participant from a large organization explained that during planning and response it is necessary for departments to come together to maximize their resources.

*“... if it affects the entire [organization] then we would, in the planning, we would try to bring all the [departments] together so that resources can be maximised rather than approaching it as just silos so that we don't waste resources in duplicating things.”*  
(Participant 22, Interview 2)

This can also be realized in partnerships and networks between organizations. Equipment, manpower, and buildings are identified as assets which organizations can offer to help one another. Participants also identified that the sharing of information, such as their plans, is important for ensuring the system is connected.

*“I think the common theme was everybody spinning their own wheels where we could all be spinning them together. Working together as a team and ensuring that safety in numbers that we're all in this together and there are certain things that we can help out with. Let's say we've got extra blankets and you've got extra water then we can all, you know, pool our resources and work together as opposed to alone.”* (Participant 6, Interview 2)

While participants acknowledged the benefits of working collaboratively with others, they explained that some instances call for the organization to focus on taking care of itself. This includes preparing staff, ensuring the safety of clients, and confirming core critical functions are operating. Once an organization is capable of being self-sufficient, it can reach out to others.

- *“The basic caregiving principle, which is sort of a source of what this is, is that you put your own oxygen mask on first.*

-*Yes.*

*-So you have your own—to take care of yourself, and then you reach out to others, right? ... take care of your own personal business so then you could work at the corporate side of things and then reach out to the community.” (Focus Group, Table 1, March 25<sup>th</sup>)*

It is important to note that there is a balance between working together and working alone. Some cases require the organization to shift its focus more internally because they are struggling to survive. Two participants from organizations directly interacting with clients on a regular basis, emphasized that during an emergency the community itself can be an asset as the people within it are connected and take care of each other.

*“The community here is very strong, they’re very giving to their neighbours. You don’t see that everywhere. I don’t know if that’s the rural factor, but they’re very good at that. I would live in [community] in a heartbeat.” (Participant 1, Interview 2)*

An organization in crisis must also recognize when they can rely on their partners to support them. The fire that occurred at the St. Albert Cheese Factory was provided as an example of collaboration at one focus group. Participants explained that following the fire, competitors stepped forward to offer their facilities to help ensure continued operations. Although these are not typical partnerships, the competitors offered their facilities and rearranged their schedules so St. Albert Cheese factory could stay in business. As a result, St. Albert Cheese survived and celebrated its triumph. This example demonstrates the importance of recognizing when to work alone and when to work together to ensure the most beneficial use of energy. Below, Table 9 offers a description of assets associated with collaboration.

**Table 9.** Assets Associated with Theme 7 (Collaborative Practice)

Asset	Description
Partnerships/ Relationships/ Networks	The interactions, connections, and relationships internal to the organization, between individuals or departments, or external to the organization, between the organization and external agencies, networks, groups, and the community
External Physical Resources	Tangible objects, such as equipment, technology, supplies, buildings, and vehicles, controlled or owned by external bodies
Goodwill	External parties, such as individuals within the community or agencies, that offer support to the organization or clients of the organization

***Theme 8: Communication sets the stage for common understanding***

Communication with staff, partners, and the community is critical throughout a disaster to ensure all stakeholders are informed and aware of their roles. Achieving effective communication at all levels requires the consideration of several components. Within the focus groups and interviews, it was repeated that a robust communication system with multiple forms of communication, such as telephone, email, text, television, and radio, is important for reaching all stakeholders. Reaching staff was a particular concern due to the nature of the essential services where staff may be out working in the community.

*“Well, when there is a pandemic or emergency it’s really hard for us to connect with our workers when they’re out in the community because if the servers are down, everything’s down, then there is no contact. Can’t email, we can’t phone because the phones are all connected to our main phone. I guess that’s the negative part is people are all scattered so the communication, when something does happen, can take longer.” (Participant 23, Interview 23)*

Communicating the BCP to staff prior to an event, through training and exercises, helps promote a rapid response. A simple document staff could pick up at any moment and understand was

preferred to a lengthy, theory-ridden BCP document. One participant noted business continuity planning has its own language and terminology which can be a “turn off” for staff and organizations. To encourage the uptake of BC practice, the participant explained that the message and BCP material should adopt the language of the organization. However, common language across all organizations is important for collaborating during a response.

*“I was in the pandemic committee... we worked on mostly communications... It seems to be a problem... and that is getting the language together. That the fire department, when they say we have a level one threat or a level five threat, it means the same for them as it does for the police, as it does for the university, as it does for the man on the street. That kind of communication isn't in place yet.”* (Participant 19, Interview 1)

Setting expectations and vocalizing assumptions with partners in advance was addressed several times by participants as important for creating common understanding of responsibilities and priorities. Formal agreements, contracts, and memorandums of understanding (MOU) function to clearly outline expectations of the organizations and to ensure compliance as there are legal liabilities which agreements allow for. Without consultation prior to an emergency, energy and resources can be misplaced, priorities are unclear, and confusion can occur.

*“We have emergency plans, business continuity plans ..., but those plans are not as valid if we don't include our private partners. We can say [the city] will do many things, but... if we just assume we're going to get power sent to us first, or if all the power goes out we're going to get gasoline sent to us first to power our generators, and we haven't talked to the [hospital] who says, 'No, we're actually a priority', if we don't talk to those people then we're making a lot of assumptions which could cause a lot of confusion in the case of an emergency. I understood we have to look at all these stakeholders and whether they're [internal] partners or they're external partners, they all have the same weight and we have to prioritize which ones we speak with and which ones would have the largest impact as partners, for example, like hospitals.”* (Participant 3, Interview 2)

Due to the direct interaction essential service organizations have with clients and the public, maintained communication is important for checking the status and safety of the clients, and relaying information and instructions to the community. Although, open, two-way

communication was deemed important, participants explained that portraying a sense of composure to the public can support a calm situation.

*“The outside of the façade of the business looks like nothing’s wrong, but behind the scenes we all know that the servers’ down, or that all that’s going on.”* (Participant 8, Interview 1)

Participant 8 further explained that a resilient organization is capable of continuing to provide services despite issues that might be happening “in the background”. This statement begins to recognize the importance of clients in organizational success. One participant from the home care sector explained that funding is scarce and to receive funds, they must continue to draw in clients. Acquired funds can then be applied to programs and operations which in turn will benefit clients.

The media was also identified as a powerful asset as it can help generate positive publicity for an organization. Public recognition was described by a participant as an indicator that their organization had bounced back following a merge. Another participant described two situations where organizations were able to frame a disaster to benefit them, as seen in the following quotation:

*“Somebody came and spoke at [organization] and they had a furniture manufacturing business. He told us about... how the fire destroyed everything... A year later, these people continued their business to a degree but a lot of their energy’s going to the outside because you’re having to build a new infrastructure. Ten years later they were back and doing better than ever because that also generates positive publicity. Just like St. Albert’s... They burned down and they maintained... they made agreements with other cheese factories in the area and they don’t have a full product line, but they have product and they’re able to maintain an outcome of business. Now what they’re going to do when they open in June or July, they’re going to throw a big party. You can actually turn the tables on this disaster and make it work for you.”* (Participant 19, Interview 2)

Further, a participant suggested that positive publicity can be leveraged to encourage large, for-

profit organizations with vast amounts of resources to help during a response. Despite the benefits of media, it can also be a hindrance as it can propagate misinformation and create public pressure. A participant from the focus group described public pressure to be “reactive” and explained that suggested solutions may not be realistic or the “best thing that needs to be done”. This demonstrates the importance of communication in delivering information to achieve common understanding and action. Table 10 provides a description of communication, agreements, and the media as an asset.

**Table 10.** Assets Associated with Theme 8 (Communication)

<b>Asset</b>	<b>Description</b>
Communication Systems	The delivery and/or exchange of information, instructions, or decisions between two or more parties
Agreements/MOUs	Documents established in advance, outlining the roles, responsibilities, and commitments between two or more parties
Links to Media	A collection of forms of communication for the mass public, such as newspapers, television, and social media

Overall, the above section provides a detailed explanation of eight emergent themes relating to organizational resilience. Within each theme, organizational level assets were identified and described. Although assets were discussed according to themes, many cross-cut several themes and help build capacity in multiple areas. In the next section, the identified assets are presented within higher-level categories to delineate the categorization and number of participants that recognized these assets in enhancing organizational resilience.

*Summary of Assets*

Table 11 is a summary of all of the assets that participants mentioned either in their interviews or at the focus groups. A total of 25 assets (at the organizational level), which were identified as supportive of resilience and business continuity, are summarized. Upon further analysis, these assets can be grouped into seven categories of assets, including: Awareness, human resources, information and communication, leadership and culture, operational infrastructure, physical resources, and social capital. Table 11 presents the categories of assets and their constituents to show how the assets were grouped. An X was placed next to each asset the participants cited in their interviews and focus groups.

**Table 11.** A Summary of Organizational Level Assets Identified by the Participants

Data Source	Participant	Awareness			Human Resources			Info. & Comm.			Leadership & Culture				Operational Infrastructure					Physical Resources			Social Capital			
		Asset literacy	Situational awareness	Plan awareness	Experience & Expertise	Human resources	Skills	Communication systems	Information	Links to Media	Engaged workforce	Learning culture	Preparedness culture	Transformative leadership	Agreements/MOUs	BCP	Decentralization	Flexibility	Plans	Processes & Policies	Response structure	External physical resources	Financial support	Internal physical resources	Partnerships/Relationships/Networks	Goodwill
Interview	1		X			X	X	X	X		X															X
	2							X	X												X			X		
	3		X			X								X				X	X		X		X	X		
	4					X		X									X		X			X		X		
	5	X	X			X			X		X		X								X		X	X		X
	6					X			X									X		X				X		
	7	X			X	X		X	X			X						X			X			X	X	X
	8	X				X	X				X		X					X			X			X		
	9				X		X										X					X	X			
	10		X	X		X	X	X			X		X			X	X		X					X		
	11																									
	12		X	X		X	X	X	X	X			X	X			X	X		X				X		
	13	X	X			X		X	X			X			X	X	X		X			X		X	X	X
	14					X	X										X	X		X				X		
	15	X	X	X		X	X		X			X	X		X	X	X	X	X			X	X	X		X
	16		X			X	X	X				X														
	17		X			X	X				X		X			X		X	X	X			X		X	
	18					X					X											X		X	X	X
	19			X		X	X	X		X	X		X			X	X	X				X		X	X	X
	20		X			X	X	X	X	X		X	X	X	X	X	X	X	X				X	X		
	21		X			X	X	X	X			X	X				X				X	X	X	X		X
	22					X	X		X			X	X	X	X			X				X	X	X		X
	23	X	X			X	X		X	X					X	X		X	X					X		X
Focus Group	March 25th	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	April 29th		X	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	
<b>Total Count</b>		7	14	6	10	22	13	14	12	3	8	5	14	8	7	10	7	12	13	9	5	11	8	19	14	5
<b>Total (%)</b>		29	58	25	42	92	54	58	50	13	33	21	58	33	29	42	29	50	54	38	21	46	33	79	58	21

X = Asset identified

Asset Category	
Awareness	Operational Infrastructure
Human Resources	Physical Resources
Information and Communication	Social Capital
Leadership and Culture	

## 4.2 Framing of Assets and Indicators

This section focuses on the value of assets, according to Bolman and Deal's (2008) four-frame model. The purpose of using four different frames to view assets is to help discern how assets can be applied in relation to organizational resilience in one or more ways. Depending on the frame, the value assigned to an asset can be different. In this section, the application of each of the seven categories of assets is presented according to each frame. Rationale for the link between the asset and frame is made using the prescribed assumptions of each frame, as outlined by Bolman and Deal (2008). Sample indicators for organizational resilience, directly derived from assets, along with an example of a SMARTT measure are also identified.

### 4.2.1 Structural Frame

The structural frame focuses on division of labour, coordination and control, rational decision making, and achieving desired results. To help understand the value of the categories of assets within this frame, each asset was analysed to determine how it could help organize groups and teams to reach goals and get results (Bolman & Deal, 2008). In addition, the six assumptions relating assets to the structural frame from Bolman and Deal (2008) were used to establish rationale for making the link between the asset and the frame (p. 47):

1. *“Organizations exist to achieve established goals and objectives*
2. *Organizations increase efficiency and enhance performance through specialization and appropriate division of labour*
3. *Suitable forms of coordination and control ensure that diverse efforts of individuals and units mesh*
4. *Organizations work best when rationality prevails over personal agendas and extraneous pressures*
5. *Structures must be designed to fit an organization's current circumstances (including its goals, technology, workforce, and environment).*
6. *Problems arise and performance suffers from structural deficiencies, which can be remedied through analysis and restructuring.”* Bolman and Deal (2008, p.47)

Information from the data, the rationale for linking, and structural frame assumptions were used to construct a list of organizational resilience indicators. Results from this analysis are presented in Table 12.

**Table 12.** Assets and Indicators Viewed Through a Structural Frame

<b>Asset Category</b>	<b>A*</b>	<b>Rationale</b>	<b>Example Asset Indicator</b>
Awareness	5	Knowledge of the strengths, weaknesses, opportunities, and threats enhances the ability of the organization to adjust to the circumstance.	Environmental Surveillance  Situational Awareness Asset: <i>Frequency of regional, national or global weekly web-based alerts of CBRN emergency events affecting like organizations</i>
Human Resources	2	Staff and volunteers have assigned roles and responsibilities to perform. When roles and responsibilities are defined with room for creativity, it enables staff to address problems with innovative solutions while achieving organizational goals.	Flexibility of Roles and Responsibilities  Human Resources Asset: <i>Span of control</i>
Information and Communication	3 6	Information provides the organization with details about the disaster that leaders can use to make decisions around coordination of the response. Effective communication systems enhances the ability of the organization to develop and maintain a coordinated response by delivering information and decisions to all stakeholders.	Communication Reach  Communication Systems Asset: <i>% of workforce who confirm the regular test of the organization's alert system</i>

Leadership and Culture	1 2 3 5 6	Ongoing monitoring, evaluation, and modification of the BCP to reflect the current circumstances. Effective transformative leaders allow appropriate authorities to lead and coordinate the response. Engaged staff are aware of the plan and know their roles and responsibilities increasing efficiency in a response. Mistakes are seen as opportunities to improve.	Living BCP  Preparedness Culture Asset: <i>Frequency of BCP review meetings in the organization</i>
Operational Infrastructure	2 6	Plans outline roles and responsibilities of individuals, and processes for a coordinated response. A flexible structure is needed for the organization to restructure itself according to the disaster.	Bureaucratic Flexibility  Flexibility Asset: <i>Proportion of duplication of core operations</i>
Physical Resources	1 4	Resources, including technology, equipment, and vehicles, have back-ups and are assigned and reassigned rationally to improve the performance of the organization. Financial resources are used to develop BCPs and to acquire other assets to maintain services and reach the community.	Back-up Physical Resources  Internal Physical Resources Asset: <i>Proportion of physical resources with back-ups</i>
Social Capital	3	Coordination of departments within the organization can improve the use of resources, limit duplication of roles and tasks, and the flow of information.	Collaboration Across Departments  Partnerships/ Relationships/ Networks Asset: <i>Average weekly frequency of communications (emails, meetings, calls) per employee with members of different organizational groups on the topic of emergency planning</i>

\*A = Assumption

#### ***4.2.2 Human Resource Frame***

Needs, skills, and relationships are the cornerstones of the human resource frame. It focuses on satisfying human needs and fitting the organization to the workers. To help understand the value of the categories of assets within the human resource frame, assets were analysed to determine how they might contribute to serve human needs, improve management of human resources, and build positive group dynamics (Bolman & Deal, 2008). In addition, the four human resource assumptions from Bolman and Deal (2008) were used to establish rationale for making the link between the asset and the frame (p. 122):

1. *“Organizations exist to serve human needs rather than the converse*
2. *People and organizations need each other. Organizations need ideas, energy, and talent; people need careers, salaries, and opportunities*
3. *When the fit between individual and system is poor, one or both suffer. Individuals are exploited or the organization—or both become victims*
4. *A good fit benefits both. Individuals find meaningful and satisfying work, and organizations get the talent and energy they need to succeed.”* Bolman and Deal (2008, p.122)

Information from the data, the rationale for linking, and assumptions with the human resource frame were used to construct a list of organizational resilience indicators for this frame. Results from this analysis are presented in Table 13.

**Table 13.** Assets and Indicators Viewed Through a Human Resource Frame

<b>Asset Category</b>	<b>A*</b>	<b>Rationale</b>	<b>Example Asset Indicator</b>
Awareness	1 2	Organizations' human resources are dynamic assets, with valuable skills, knowledge, creativity, expertise, and experience. The ability to mobilize human resources during a disruptive event is reflected in the organization's investment in ongoing training in disaster response and recovery.	Training activities  <i>Asset Literacy: % of workforce currently engaged in disaster response and recovery training activities</i>
Human Resources	2	Human resources have skills, knowledge, creativity, expertise, and experience which can contribute to the organization's adaptive capacity in disaster response and recovery.	Confident Staff  <i>Skills Asset: % distribution of workforce by different levels of accredited disaster response and recovery training</i>
Information and Communication	4	Making information accessible to staff and providing opportunities to provide feedback, such as in debriefs, engages and empowers employees. Communication within teams promotes positive group dynamics by establishing informal roles.	Acknowledging Feedback  <i>Information Asset: % of workforce actively involved in contributing to the development and maintenance of the BCP</i>
Leadership and Culture	1	An organizational culture embracing learning and preparedness, encourages human resources to come forward to share their successes and mistakes without fear of punishment. As such, this fosters trust while also empowering staff to engage in activities.	Staff Engagement  <i>Learning Culture Asset: Workforce training costs as % of total organizational budget</i>
Operational Infrastructure	4	A progressive organization values its employees and establishes norms in support of work-life balance, workplace safety and security, and a positive workspace.	Plans and Processes  <i>Processes &amp; Policies Asset: Number of Weekly HR Initiatives in place</i>

Physical Resources	1 4	Providing human resources with the proper equipment to perform tasks demonstrates the organization's respect for staff safety and security while also enabling staff to feel a sense of self-fulfillment.	Equipment Availability  Financial Support Asset: <i>Proportion of total budget committed to new capital equipment and maintenance</i>
Social Capital	4	Organizations retain staff because they are committed and passionate about their work. This commitment fosters the development of relationships and connections between the staff members.	Teamwork  Partnerships/ Relationships/Networks Asset: <i>Average daily number of interoffice communiqués per employee (emails, phone calls, organizational social media postings)</i>

\*A = Assumption

#### ***4.2.3 Political Frame***

The political frame is referred to as a “jungle” because it embraces conflict as an important component of organizational success. To help understand the value of the categories of assets within the political frame, each asset category was analysed to determine how it helps an organization to address power and conflict, enhance political skills, and cope with politics within and outside of the organization (Bolman & Deal, 2008). In addition, the five political assumptions from Bolman and Deal (2008) were used to establish rationale for making the link between the asset and the frame (p. 194):

1. *“Organizations are coalitions of assorted individuals and interest groups*
2. *Coalition members have enduring differences in values, beliefs, information, interests, and perceptions of reality*
3. *Most important decisions involve allocating scarce resources—who gets what*
4. *Scarce resources and enduring differences put conflict at the center of day-to-day dynamics and make power the most important asset*

5. *Goals and decisions emerge from bargaining and negotiation among competing stakeholders jockeying for their own interests.*” Bolman and Deal (2008, p.194)

Information from the data, the rationale for linking, and assumptions within the political frame were used to construct a list of organizational resilience indicators for this frame. Results from this analysis are presented in Table 14.

**Table 14.** Assets and Indicators Viewed Through a Political Frame

<b>Asset Category</b>	<b>A*</b>	<b>Rationale</b>	<b>Example Asset Indicator</b>
Awareness	4 5	Organization is aware of available funding opportunities. The organization is also aware of competitors, potential partners, and potential clients. This knowledge enhances the ability of the organization to be competitive and to manage external politics.	Knowledge of Sector  <i>Asset Literacy: Market share ranking: n of N firms</i>
Human Resources	3	Employee experience and expertise enhance organizational resilience. Experienced decision makers streamline energy and resources into plans and processes for improving organizational resilience.	Collective Vision  Experience & Expertise Asset: <i>Average years of disaster response and recovery experience of employees at the different levels of organizational hierarchy</i>
Information and Communication	4	Information is a valuable source of power and can be used as leverage between organizations, such as sharing BCPs or best practices. Information sharing offers the potential benefit of minimizing duplicated efforts and wasted resources to both organizations.	Information Availability  Information Asset: <i>Frequency of information sharing with partner organizations</i>

Leadership and Culture	2 4	Transformative leadership from top management enables the incident commander to exhibit power throughout a disaster. The power dynamic between leaders from top management, middle management, and champions is distributed and decisions are respected during a response.	Decision Making  Transformative Leadership Asset: <i>Presence of a response structure (yes/no)</i>
Operational Infrastructure	5	Agreements, MOUs, and contracts establish the relationship between two or more organizations, making responsibilities between organizations clear and limits conflict during an event. Organizations outsourcing services, such as IT, to other agencies enter a contract which enhances the liability the outside organization has to its contractor.	Agreements with External Parties  Agreements/MOUs Asset: <i>Presence of agreements with partners (yes/no)</i>
Physical Resources	5	Bonuses or other cash incentives can promote engagement of staff in preparedness and BCP activities. It can also motivate an individual to take responsibility of the development and maintenance of the plan. If funding is scarce, the organization can offer other incentives such as positive recognition in the company.	Financial Support of BCP  Financial Support Asset: <i>Offer participation incentives for BCP to staff (yes/no)</i>
Social Capital	4 5	Organizations can acquire external resources, prior to and during a disaster, by building partnerships and connections with other organizations in advance. Negotiation over resources helps to develop mutually beneficial relationships where the organizations can identify areas of needs and assets they can offer one another to fill in the gaps.	Established Partners  Partnerships/Relationships/ Networks Asset: <i>Frequency of preparedness discussions with partners per year</i>

\*A = Assumption

#### ***4.2.4 Symbolic Frame***

Meaning, culture, and symbols are some of the central concepts which help define the symbolic frame. This frame focuses on providing meaning and motivation to work, and acknowledges the importance of symbols in establishing organizational culture. To help understand the value of the categories of assets within the symbolic frame, each asset category was analysed to determine how it shapes organizational culture to give meaning to work, to present the organization to appropriate audiences, and to promote team spirit (Bolman & Deal, 2008). In addition, the five symbolic assumptions from Bolman and Deal (2008) were used to establish rationale for making the link between the asset and the frame (p. 253):

1. *“What is most important is not what happens but what it means*
2. *Activity and meaning are loosely coupled; events and actions have multiple interpretations as people experience life differently*
3. *Facing uncertainty and ambiguity, people create symbols to resolve confusion, find direction, and anchor hope and faith*
4. *Events and processes are often more important for what is expressed than for what is produced. Their emblematic form weaves a tapestry of secular myths, heroes and heroines, rituals, ceremonies, and stories to help people find purpose and passion*
5. *Culture forms the superglue that bonds an organization, unites people, and helps an enterprise accomplish desired ends.”* Bolman and Deal (2008, p.253)

Information from the data, the rationale for linking, and assumptions within the symbolic frame were used to construct a list of organizational resilience indicators for this frame. Results from this analysis are presented in Table 15.

**Table 15.** Assets and Indicators Viewed Through a Symbolic Frame

<b>Asset Category</b>	<b>A*</b>	<b>Rationale</b>	<b>Example Asset Indicator</b>
Awareness	5	An organization that is aware of its strengths and weaknesses can develop strategies to help promote or steer organizational culture. Awareness of staff and their characteristics can help target engagement strategies for BCP.	BCP Awareness  Plan Awareness Asset: <i>% of workforce involved in regular updates and maintenance of the organization's BCP</i>
Human Resources	4	Expertise and experience of disaster response and recovery are shared throughout the organization. Past experiences with disasters perpetuate lessons and inform new staff and management about the strengths and weaknesses that occurred. Sharing experiences, expertise, and knowledge promotes a culture of preparedness and learning.	Preparedness Culture  Experience & Expertise Asset: <i>%Number of citations and awards to workforce for contributions to past disaster response and recovery</i>
Information and Communication	5	What is communicated to stakeholders inside and outside the organization can shape the way the organization is perceived. Language is a critical element of communication which can promote purpose and meaning for the organization or staff to engage in BCP activities. Adopting the language of the audience, for example health care, shapes BCP engagement strategies to be targeted towards organizations and staff.	BCP Integration  Communication Systems Asset: <i>Preparedness activities integrate the language of the organization (1-5 scale)</i>

Leadership and Culture	3 4	Top leaders of organizations have the potential to increase morale and maintain a sense of calm both within and outside of an organization. Leaders can also support a learning and preparedness culture by engaging in those activities themselves, being role models. Celebrating successes is also important for building spirit and showing the public and staff the positive attributes of the organization.	Influential Leadership  Transformative Leadership Asset: <i>Senior leaders actively participate in preparedness activities (1-5 scale)</i>
Operational Infrastructure	4	Plans, processes, and policies can be perceived as symbols that portray the organization to be prepared and resilient. BCP plans as symbols can help bring individuals within the organization together to work towards a collective goal of resilience.	Planning Activities  Processes & Policies Asset: <i>Presence of a policy supporting BCP (yes/no)</i>
Physical Resources	1	Having the necessary equipment and facilities demonstrates to the public and staff that the organization is prepared. An organizational logo itself is symbol portrayed to staff and the public. Further, providing staff with equipment and identifiable clothing helps others recognize the organization.	Public Recognizes Organization  Internal Physical Resources Asset: <i>% of staff with identifiable equipment or clothing</i>
Social Capital	2	During a disaster, partnerships and networks can be tapped into for help. In the event that one organization helps another survive, such as the example of the St. Albert Cheese factory, it can promote positive publicity. Positive publicity can enhance how recognizable the organization is to the public and show that it is operational.	Partners' Capabilities and Capacity  Goodwill Asset: <i>Annual budgetary contributions of the organization to community disaster response and recovery</i>

\*A = Assumption

### **4.3 Summary**

In summary, this section presented eight emergent themes, 25 organizational assets, and 28 indicators for organizational resilience. Themes provided in this section describe what participants identified as important for enhancing the resilience of essential service organizations in Ottawa, including investing in people, adaptation policies, and collaborative practice. Throughout the themes, organizational assets were identified, described, and later categorized into seven groupings of assets used to steer the development of indicators. In addition, each of the asset categories was analyzed in relation to four frames (structural, human resources, political, and symbolic) to understand their value according to each frame. In the next section, an emergent conceptual model, based on the above results, is presented and described, guiding the discussion of the main research findings in relation to the extant literature.

## CHAPTER 5: DISCUSSION

The overarching purpose of this research was to explore, using a *salutogenic* lens, organizational assets and indicators for organizational resilience to contribute to the effective evaluation and engagement of organizations in business continuity planning efforts. To address this, three research questions were presented (Chapter 1, Section 1.2):

1. What are important assets identified by essential service organizations that contribute to resilience in the event of a disaster and how can they be framed within the organization?
2. What are potential organizational resilience indicators based on a salutogenic orientation?
3. How can essential service organizations be engaged promoting business continuity planning?

The results section (Chapter 4) addressed the first two questions, presenting emergent themes that identified and described assets. Assets can be viewed through four different organizational frames to understand their value and determine potential organizational resilience indicators. In this chapter, findings from this research are discussed in relation to the extant literature and engagement strategies. To guide the discussion, an emergent conceptual model is first presented, integrating the preliminary conceptual model (Figure 1) and findings from this study.

### 5.1 Emergent Model

Figure 3 depicts the *Emergent conceptual model of salutogenic indicators for organizational resilience*, which was developed from the integration of the preliminary conceptual model and the findings from this study. The purpose of this model is threefold: (1) to capture the elements that contribute to organizational resilience, (2) to show how the four frames are applied to

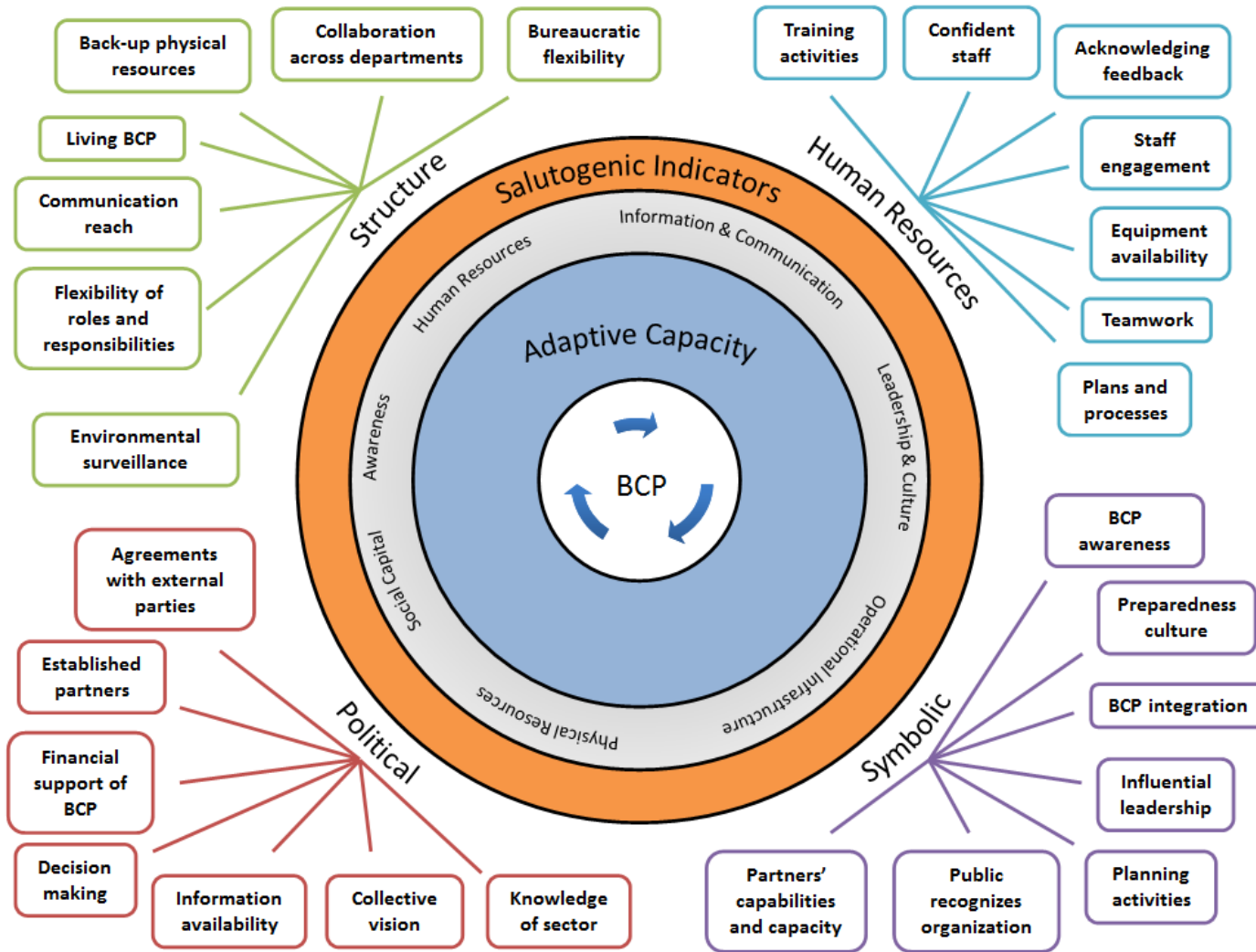
resilience, and (3) to inform the development of indicators toward the measurement of organizational resilience.

The development of the BCP is presented in the centre of the model (Figure 3) to denote a focused process to enhance organizational resilience. Apparent from this study is the importance of maintaining a BCP and integrating it into organizational culture, to improve the preparedness and resilience of the organization. As such, continuity planning is a cyclical process of continual improvement that is woven into the cultural “norm” of the organization. Beyond its potential contribution to organizational resilience, it also brings participants together to discuss issues related to continuity planning. The individuals who participated in the focus groups for this study were initially interested in the BCP in relation to their essential service organization, whether they have a plan or not. Given the essential role of the BCP in promoting organizational resilience and providing a focus for discussion, the application of the BCP cyclical process is depicted at the heart of the model.

The next element of the model is adaptive capacity, which emerged as an overarching concept from the data, representing the ability of an organization to adapt to the environment during and after a disaster. Themes related to adaptive capacity pertained to assets which enhance the capacity of the organization to adapt to a changed context. As such, the categories of assets (awareness, human resources, information and communication, leadership and culture, operational infrastructure, physical resources, and social capital) were placed around adaptive capacity in the model. In the literature, adaptive capacity has been referred to as a dynamic state, and it can enhance the ability of a system to remain stable despite changes in the context (Gunderson, 2000; Norris et al., 2008; and O’Sullivan et al., 2014b). Norris et al. (2008) further

explain that resilience is a set of dynamic adaptive capacities. The purpose of the categories of assets is to show their role in supporting adaptive capacity, and in turn, resilience. This link between resilience and adaptive capacity is the rationale for placing adaptive capacity in the centre of the model, with BCP inside to stimulate the development of capacities. In addition, the salutogenic nature of the findings is represented, where indicators were derived from the assets and focus on factors that promote organizational resiliency, rather than indicators of lack of capacity.

Finally, within the model, the salutogenic indicator groups span out from the core in accordance with the frames with which they are associated. The four frames presented by Bolman and Deal (2008) represent the different ways to view an organization and its assets, and include: (1) Structural; (2) Human Resources; (3) Political; and (4) Symbolic. The indicator groups are presented around the outside of the circle to demonstrate how they could be used in process, impact and outcome evaluations of BCP activities, and proxy measures of organizational resilience.



**Figure 3.** Emergent conceptual model of salutogenic indicators for organizational resilience

## **5.2 Discussion of Results**

The following discussion focuses on the third research question on engagement strategies. The discussion integrates the emergent model (Figure 3), the specific findings from this study, and extant knowledge on organizational resilience, while highlighting implications for engagement strategies for business continuity planning. This section is divided into three subsections. In the first subsection, upstream investment activities, such as asset mapping, are discussed in relation to enhancing organizational capacity and resilience. Bolman and Deal's (2008) four-frame model is discussed in the second subsection in terms of the implications for collaboration and innovation. Finally, the organizational resilience indicators developed from this study are addressed and compared to the extant literature.

### ***5.2.1 Organizational Capacity***

This study provides categories of assets derived from the interview and focus group data that can be applied to help steer asset-mapping activities. It is important to note that assets are dynamic, and they can shift after an interaction or experience. Asset-mapping activities help to build awareness of assets and the dynamic systems in which they are situated (Foot, 2012). In addition, asset-mapping activities provide opportunities for engaging individuals in community development and sustainable organization initiatives (Puntenney, 2000). Thus, to help engage organizations in developing a BCP, orienting continuity planning around an asset-based approach enhances the identification of organizational capacity while motivating and empowering people within the organization to engage in the process.

The *Emergent conceptual model of salutogenic indicators for organizational resilience* presented in Figure 3 displays categories of assets derived from the interview and focus group data that

contribute to organizational resilience. Identification of assets is emphasized by Morgan and Ziglio (2007) as an important component of health promotion, enhancing capacity to maintain health. Throughout a disaster, assets are mobilized to assist with downstream response and recovery activities (O'Sullivan et al., 2014b). O'Sullivan et al. (2014b) stress the importance of investing in upstream prevention/mitigation and preparedness activities to build capacity to support response and recovery. This supports elements of Hobfoll's (2001) Conservation of Resources (COR) Theory, explaining that investment in assets is important for building capacity, which in turn helps reduce the impact of asset loss.

The results from this study show that participants recognized the importance of investing in assets for organizational resilience. Human resources were emphasized as one of the predominant assets in essential service organizations. The participants emphasized the importance of investing in equipment and training to enhance human resource capabilities. Human resources were also identified as having their own set of assets which can be used individually in a response, but also to contribute to the overall ability of the organization to adapt. For example, the skills and knowledge of one individual could be used to develop an innovative solution for an organizational level problem.

Assets have been categorized in the literature in several ways, including according to system levels such as: Individual, association, organization, and community (Foot & Hopkins, 2010; Morgan & Ziglio, 2007). This study focuses on organizational level assets, however, it was recognized that individual assets, as mentioned above, can enhance organizational adaptive capacity. With this perspective, the total combination of individual assets within an organization contributes to the collective asset profile of the organization at any given time.

Another strategy is to categorize assets as primary, secondary, and potential building blocks (Morgan & Ziglio, 2007). This form of asset categorization was apparent within the results of this study. Primary assets were those that were located and controlled by the organization. An example of this includes physical resources, such as equipment, supplies, and buildings owned by the organization. Secondary assets were those located within the organization but controlled by an external body, such as earmarked funding given to an organization with conditions on use. Finally, potential assets exist outside of the organization and are controlled by an external body. As seen in Theme 7 on collaborative practice, organizations within the community represent a plethora of potential assets. The St. Albert Cheese Factory was discussed as an example demonstrating the importance of partners who emerge in a time of crisis. After the St. Albert Cheese Factory fire, competitors stepped forward and offered their facilities, and as a result shifted the asset inventory of the factory. This example demonstrates how quickly an organization's asset profile can change, highlighting the dynamic state of assets.

### ***5.2.2 Collaboration and Innovation***

Multiframe thinking is a tool which stimulates creativity and imagination (Bolman & Deal, 2008). Bolman and Deal explain that “reframing is a powerful tool for gaining clarity, regaining balance, generating new options, and finding strategies that make a difference” (p. 22). Engaging in collaborative practice enhances a way to view an issue through multiple frames, fostering innovative ideas for the activation of assets (O’Sullivan et al., 2014b). In other words, when multiple individuals holding different frames, come together, they will place different values on assets. This diversity may contribute to innovative ideas for addressing a problem, and foster common ground. Establishing common ground, the shared understanding among members of a

collaborative group, is recognized as important for engaging organizations in BCP practices (Kuziemyky & O'Sullivan, 2015; Kuziemyky & Varpio, 2010). As such, the four frames can be used to reframe BCP to suit the organization, and establish common ground to enhance engagement.

The four frame model offered by Bolman and Deal (2008) provides a holistic approach to appreciating and understanding an organization, and can be used to foster collaboration and innovation. Each frame, (structural, human resources, political, and symbolic), is represented in Figure 3 as a way of understanding the value of the categories of assets, as well as helping to identify indicators for organizational resilience. The results from this study demonstrated that assets have different values depending on which frame is adopted. For example, social capital through the structural frame was viewed as an asset due to its contribution to the coordination of departments, while under the human resource frame connections between staff is seen to foster commitment and task completion. Politically, social capital is used to acquire external resources from partners, and symbolically it is a way to promote positive publicity.

### ***5.2.3 Indicators***

The organizational resilience indicators presented in this study were grounded in the assets identified by the participants from essential service organizations, demonstrating a salutogenic approach. As explained by Morgan and Ziglio (2007), there is a need to develop asset-based indicators to evaluate programmes and initiatives for health promotion. Earlier in this thesis, it was explained that many organizations find it difficult to invest time and money into a BCP as there is no immediate return on investment, or way to measure the value (Duncan et al., 2011).

The indicators provided here can inform the design of evaluation studies to assess process, impact, and ongoing outcomes of the BCP.

The final component of Figure 3 is the organizational resilience indicators based on a salutogenic orientation, making up the periphery of the model. Previous work on resilience indicators has focused on social ecological resilience (Xu, Marinova, & Guo, 2014), regional social resilience (Cuthill, Ross, Maclean, Owens, Witt & King, 2008), and organizational resilience (Lee et al., 2013). The Resilient Organizations Research Programme in New Zealand has developed 13 organizational resilience indicators grouped into three categories: (1) Leadership and Culture; (2) Networks; and (3) Change Ready (Brown, Seville, & Vargo, 2014; Lee et al., 2013). Compared to their categorization, this research study has identified 28 example indicators of organizational resilience attributed to the four frames, and grouped into the seven asset categories. The difference in the number of indicators can be attributed to the level of specificity. The example indicators from this study aim to be SMARTT (Specific, Measurable, Achievable, Reviewable, Time Lined, Talking) and are therefore closely related to specific elements of an organization (Cuthill et al.). Indicators developed from the Resilient Organization's categorization are of a higher level and have a broader reach for elements within an organization. Despite this difference, similarities exist between the indicators in both studies. For example, both studies recognized "decision making" and "staff engagement" as indicator groups; however, differences in specificity also exist, as seen by the "leadership" indicator by Brown et al. and the "influential leadership" indicator identified in this study.

In summary, the findings from this study link directly to engagement strategies of the organization toward the implementation of the BCP to enhance organizational resilience. Asset-

mapping activities were recognized for their focus on capacity, making continuity planning more approachable. Reframing BCPs to suit the organization was another strategy to align with organizational culture and strategic direction. Finally, the indicators are identified as the specific means of measuring the value of the BCP to the resilience of the organization. Due to the role of essential service organizations in maintaining public health and well-being, it is of utmost importance that these organizations invest and engage in upstream disaster preparedness activities.

## **CHAPTER 6: CONCLUSION**

This chapter summarizes the contributions of this research to the body of knowledge around organizational resilience and presents implications for practice. It also addresses the limitations of this research and possibilities for future research.

### **6.1 Contribution**

This research provides a model of assets and indicators for organizational resilience based on an inductive analysis of data collected from representatives of essential service organizations in Ottawa. Seven categories of assets (Awareness, Human Resources, Information and Communication, Leadership and Culture, Operational Infrastructure, Physical Resources, and Social Capital) were identified in this study for their contribution to organizational resilience in the event of a disaster. Further, organizational resilience indicators were derived using an asset-based approach framed by a set of holistic perspectives of the organization. This model provides a way to understand organizational resilience from a salutogenic perspective.

Findings from this study address gaps in the literature regarding asset-based approaches for health promotion, evaluation methods for BCPs, and engagement strategies. This thesis addresses three research questions, as provided below:

**1. What are important assets identified by essential service organizations that contribute to resilience in the event of a disaster and how can they be framed within the organization?**

*Objective:* Identify assets within and external to an essential service organization that promote continued functioning and organizational resilience, and determine how these assets can be applied in relation to the framing of the organization.

Chapter 4 of this thesis provided emergent themes where assets were first identified and described in the context of their contribution to resilience of essential service organizations in Ottawa. A total of 25 organizational level assets emerged from the data, which were then grouped into seven overarching categories. The categories of assets were then analyzed according to four frames for organizational analysis, outlined by Bolman & Deal (2008), which were used to identify an indicator of value associated with each asset, based on the assumptions for each frame. The results from this study demonstrate that depending on which frame is adopted, the value of the asset in promoting organizational resilience varies. However, as explained in the Chapter 5 discussion, when individuals with different frames collaborate, there is potential for innovation and common ground.

**2. What are potential organizational resilience indicators based on a salutogenic orientation?**

*Objective:* Develop a list of organizational resilience indicators to assess the resilience of an organization when confronted by a disaster or emergency situation.

Organizational resilience indicators based on a salutogenic orientation are presented in Chapter 4 for each of the four organizational frames. Tables 12, 13, 14, and 15, representing the four

frames and the application of assets, highlight potential indicators directly derived from the assets identified by the participants in this study. In total, 28 example indicators for organizational resilience were identified and presented in broad terms in the conceptual model in Chapter 5. This research addresses a gap in the literature on evaluation methods for BCPs and provides direction for evaluation of interventions, programs, and BCP activities and their contribution to organizational resilience.

### **3. How can essential service organizations be engaged promoting business continuity planning?**

*Objective:* Compile strategies for engaging essential services organizations toward the preparation of BCPs that link private and public sectors initiatives.

Chapter 5 presented engagement strategies for BCP throughout the discussion, linking the results of this thesis to the literature. Three engagement strategies were identified. First, the categories of assets from this study can help guide asset-mapping activities for BCP, focusing on capacity building and making BCP more approachable. Second, multiframe thinking was described as a way to look at business continuity planning, and can be used to understand how to frame BCP activities to best suit and engage an organization. Finally, the potential organizational resilience indicators provide guidance for evaluation of BCP activities and their contribution to organizational resilience.

## **6.2 Implications for Practice**

This study aimed to provide a practical model which could be adopted by essential service organizations when engaging in activities around organizational resilience. The model presented

in Figure 3, developed from the literature and the results from the participant data and content analysis, provides organizations with action levers that can be used to design BCP strategies.

In addition to the model, the themes presented in Chapter 4 provide valuable insight for essential service organizations when engaging in BCP activities. First, in Theme 8, it was recognized that there is a language difference between health care and business continuity planning, making it difficult for essential service organizations to understand and adopt business continuity planning practices. Challenges arise between organizations using different BCP terminology, hindering their ability to effectively communicate and collaborate. The information presented in this thesis suggests that there is a need to adopt the language of the organization when trying to engage organizations as well as to align BCP terminology across all essential service organizations.

Second, findings from this study highlight the importance of culture in adopting and maintaining BCP activities. Organizations investing in training and exercises provide learning opportunities for human resources, developing their awareness of the plan, skills, and knowledge. It was explained that when the BCP is embedded in organizational culture it becomes part of ‘the norm’ and subsequently, the BC plan is updated regularly and activation of the plan is reflexive. These findings suggest that culture plays a large role in adoption and effectiveness of a BC plan.

Finally, transformative leadership was identified to have a significant role in upstream and downstream activities. BCP “buy-in” from top management was recognized as important for supporting the integration of BCPs into organizational culture. It was explained that acknowledgement of the plan should be followed with action, such as allocating physical and financial resources to BCP activities. Transformative leadership was recognized as important during response and recovery activities as top management must acknowledge when it is time to

let others lead. Top management can support the incident commander by respecting decisions and remaining as a symbolic figure during the event. The findings from this study suggest that the adoption of transformative leadership by top management can facilitate and enhance organizational resilience activities.

### **6.3 Limitations**

The study is recognized to have several limitations. First, the findings from this study are specific to essential service organizations in the Ottawa community, limiting the generalizability of the results to other settings. To help enhance the transferability of these results to other organizations in different communities, results were presented with thick descriptions of the context in which they apply. Providing thick descriptions of the setting allows other researchers to determine if the findings are applicable in their situation (Creswell, 2013).

Second, the study sample ( $n=22$ ) was recruited through snowball sampling methods and resulted in a wide range of experience with business continuity planning among participants. For this study, essential service organizations were defined quite broadly to include organizations providing services which are necessary for the continued functioning of individuals with functional limitations. Representatives from essential service organizations were invited to participate in a focus group to discuss organizational resilience and BCPs. Due to the broad range of participant experience with business continuity planning, some participants found it difficult to participate at the focus group. This may have influenced the results as the more experienced participants may have informed non-experienced participants with their own perspectives and biases. However, as a CBPR study, this educational component of learning from others was perceived as a great benefit to the participants and their organizations.

Finally, the results of this study provide a list of organizational resilience indicators that were identified using an asset-based approach. The scope of this study was restricted to presenting an example list of SMARTT indicators without providing the measurable values or organizing the suite of indicators into an evaluative set for organizational resilience. More work on quantitative data collection and analysis is needed to validate the indicators, develop specific measures for them, and to construct a measurable scale of organizational resilience.

#### **6.4 Future Research**

This thesis study explored assets and indicators for organizational resilience and strategies to engage organizations in business continuity planning. As a next step, it would be beneficial to validate the model of assets and indicators for organizational resilience presented in this study. Studies are needed to refine the potential list of organizational resilience indicators in addition to testing them in organizations embarking on continuity planning. There is also a need for quantitative studies evaluating organizational resilience indicators based on a salutogenic orientation to provide insight into their usefulness and appropriateness. Finally, an experimental study to assess the impact of BCPs in a community where there are frequent and varied disasters would provide empirical evidence of the relationship between these indicators and organizational resilience.

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## APPENDICES

### Appendix A: Ethics Certificate

This ethics certificate was granted by the University of Ottawa’s Research Ethics Board for phase two of the “Mapping Organizational Assets to Enhance Disaster Resilience: A Salutogenic Approach to Business Continuity Planning” project and was received on January 15, 2014.

File Number: H11-12-12B

Date (mm/dd/yyyy): 01/15/2014



**Université d’Ottawa** **University of Ottawa**  
 Bureau d’éthique et d’intégrité de la recherche Office of Research Ethics and Integrity

### Ethics Approval Notice

#### Health Sciences and Science REB

**Principal Investigator / Supervisor / Co-investigator(s) / Student(s)**

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Tracey	O’Sullivan	Health Sciences / Human Kinetics	Principal Investigator
Wayne	Cornell	Institute of Population Health	Co-investigator
Daniel	Lane	Telfer School of Management	Co-investigator
Shannon	Tracey	Telfer School of Management	Co-investigator

File Number: H11-12-12B

Type of Project: Professor

Title: Mapping Organizational Assets to Enhance Disaster Resilience: A Salutogenic Approach to Business Continuity

<u>Approval Date (mm/dd/yyyy)</u>	<u>Expiry Date (mm/dd/yyyy)</u>	<u>Approval Type</u>
01/15/2014	01/14/2015	Ia

(Ia: Approval, Ib: Approval for initial stage only)

**Special Conditions / Comments:**

Note that some universities require researchers to obtain ethics approval from their institutions in order to access their employees and/or students. Should the researchers choose to include representatives from other academic institutions (other than uOttawa), the researchers must contact the ethics office of the selected institutions to ensure that they are following proper procedures. (Note that if REB approval is required, institutions would likely review your file as a delegated review.) Copies of ethics approval from other institutions or confirmation (ethics review is not required) must be submitted to the uOttawa Ethics Office and added to your file (prior to the start of recruitment and data collection at these sites).

## Appendix B: Recruitment Letter

This recruitment letter was submitted on November 20, 2013 to the University of Ottawa Research Ethics Board as part of phase two of the “Mapping Organizational Assets to Enhance Disaster Resilience: A Salutogenic Approach to Business Continuity Planning” project.



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**Université d'Ottawa**  
Faculté des sciences de la santé

École interdisciplinaire des sciences de la santé

**University of Ottawa**  
Faculty of Health Sciences

Interdisciplinary School of Health Sciences

### Business Continuity Study

Our research team at the University of Ottawa is conducting a study titled: *Mapping Organizational Assets to Enhance Disaster Resilience: A Salutogenic Approach to Business Continuity Planning*. This is a multi-phase project focused on business continuity planning and strategies to engage the private sector in collaboration for emergency management.

During the first year of the project we worked on a literature review focusing on toolkits and strategies for business continuity planning, asset-mapping techniques, and the roles of the various organizations in emergency planning, response and recovery. In the next few months, we are conducting focus group discussions in Peterborough and Ottawa to explore different roles of the private sector in emergency management, and strategies to engage organizations in business continuity planning.

We are writing to request your assistance in distributing this information letter throughout your community to public and private sector organizations; specifically representatives from essential service organizations in emergency management, health and social services, and other community service organizations. To participate, you must be 18 years or older and are able to speak English. Interested participants are asked to participate in 1 focus group (2.5 hours in duration) and 2 phone interviews (approximately 30 minutes each) over a 2-month period.

We would very much appreciate if you could distribute this notice to anyone in your organization who might be interested in participating in this study. If you or anyone in your organization is interested in participating, please contact Shannon Tracey or Tracey O'Sullivan.

Thank you very much for your assistance with this project.

Tracey O'Sullivan, PhD  
Faculty of Health Sciences, University of Ottawa

## Appendix C: Participant Consent Form

This consent form was submitted on November 20, 2013 to the University of Ottawa Research Ethics Board as part of phase two of the “Mapping Organizational Assets to Enhance Disaster Resilience: A Salutogenic Approach to Business Continuity Planning” project.



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santé Faculté des  
sciences de la santé

University of Ottawa  
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## Consent Form

### Research Project:

### Mapping Organizational Assets to Enhance Disaster Resilience: A Salutogenic Approach to Business Continuity Planning

Principal Investigator:  
Tracey O'Sullivan  
Faculty of Health Sciences, University of Ottawa

Co-Investigators:  
Daniel Lane, Shannon Tracey

### PURPOSE

Disasters such as Typhoon Haiyan and the 2013 flooding in Southern Alberta provide reminders of how crises are part of the reality of modern society. When events like these happen, it is important for businesses to be able to resume services quickly; particularly when clients depend on certain services and supports for survival or optimal functioning.

This study was designed to address this issue by exploring how organizations plan for business continuity during disasters. We are hosting several consultation sessions to explore the roles of different organizations in emergency management, how organizations engage in business continuity planning, and indicators that can contribute to the resiliency of an organization.

## **YOUR PARTICIPATION**

You are being invited to participate because of your role in an organization that provides essential services in your community. Should you choose to participate, your involvement in the study will include participation in 2 phone interviews (30 minutes each) and one focus group (2.5 hours). You are provided with snacks and refreshments during the focus group. Please inform us if you have any food allergies.

During the interviews and focus group, you are asked to discuss the various supports your organization provides for members of the community, and the strategies your organization uses for disaster preparedness, as well as to identify any gaps that exist within these supports.

The interviews and focus group are audio-recorded, and all recordings are transcribed (typewritten) and analyzed. For the purposes of the study, we will also be asking you some background questions (eg. your age, the type of organization you work in).

## **BENEFITS**

Your participation in this study benefit society by building knowledge about how organizations plan for business continuity during disasters. You and your organization may also benefit through the networking that occurs during the focus group sessions, and the shared knowledge about disaster preparedness and organizational resilience.

## **RISKS**

Some people may find it stressful to discuss potential crises in the community or within an organization. Please note that you may refuse to answer any questions that you do not wish to answer, and you have the right to withdraw from the study at any time.

Please note that should you decide to withdraw from the study after the focus group, your responses will have been incorporated into the existing transcripts at that point. It will not be possible to separate the responses you provided during the group session from the rest of the data, because the data is collected anonymously (ie. we do not know who's voice is who on the recording). However, because the interviews are done individually, you may choose to have the interview data withdrawn if you do not want it used in this study.

## **ANONYMITY AND CONFIDENTIALITY**

To protect your identity, your name will not be used on stored recordings and documents. However, given the focus group format, there is interaction between participants, and therefore anonymity cannot be guaranteed. For the interview transcripts, each participant is given an alternate name to protect their identity.

There will be no use of personal identifiers in the research reports, and quotations will not contain identifying information. In addition, to ensure confidentiality, the list of participants will be kept in a secure area, separate from the interview and focus group material and will be accessible only to the research team.

All paper data will be kept in a locked filing cabinet in Dr. O'Sullivan's lab. Electronic data files will be password-protected and only members of the investigative team and research staff will have access to these passwords. The data from this study may be used for student masters theses. Information gathered for this study will be stored for 15 years after which time all paper and electronic materials, including the list of participants and contact details, will be destroyed.

## **QUOTATIONS**

Participants may be quoted in the research study reports, but no names or identifying information will be used. We are unable to discern who's voice is who on the focus group recordings, therefore it is possible you may be quoted from the focus group discussion. However, we would appreciate knowing if you prefer to be quoted from your interview. Please indicate your preference by putting your initials beside the sentence below that you agree with most:

- *I agree to be quoted but all personally identifying information shall be removed or altered and contents of the quote shall not be revelatory of my identity.* \_\_\_\_\_.
- *I do not wish to be quoted from my interview.* \_\_\_\_\_.

## **SIGNATURES**

Your participation is voluntary and there is no financial compensation provided for your participation in this study. You are free to withdraw from the study at any time. Your signature on this form indicates you understand the information regarding your participation in the research project and agree to participate.

If you have any questions concerning your rights as a participant in this research, please contact The Protocol Officer for Ethics in Research at the University of Ottawa at the following address, phone number or email:

Mailing address: Protocol Officer for Ethics in Research  
Research Grants and Ethics Services  
University of Ottawa  
Tabaret Hall  
Ottawa, ON K1N 6N5

Email: [ethics@uottawa.ca](mailto:ethics@uottawa.ca)

Participant name (please print): \_\_\_\_\_

Participant signature: \_\_\_\_\_

Date: \_\_\_\_\_

Investigator signature (please print): \_\_\_\_\_

Investigator signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Please sign and date this letter and return to Dr. Tracey O'Sullivan before your first interview. Alternatively you may mail it to Dr. Tracey O'Sullivan. Thank you for your interest in this study.**

**Appendix D: Focus Group Guide**

This focus group guide was submitted on November 20, 2013 to the University of Ottawa Research Ethics Board as part of phase two of the “Mapping Organizational Assets to Enhance Disaster Resilience: A Salutogenic Approach to Business Continuity Planning” project.

1. What is the role of the private sector in emergency planning, response and recovery?
2. What is needed for an organization to be considered resilient in the event of a disaster?
3. What are key assets/resources in your organization that contribute to business continuity in the event of a disaster?
4. What strategies are used or needed to engage organizations in business continuity planning?

## **Appendix E: Interview Guide**

This interview guide was submitted on November 20, 2013 to the University of Ottawa Research Ethics Board as part of phase two of the “Mapping Organizational Assets to Enhance Disaster Resilience: A Salutogenic Approach to Business Continuity Planning” project.

Time of interview:

Date:

Interviewer:

Interviewee:

*Thank for time*

*Will take approximately 30 minutes to 1 hour*

*We the focus groups will be held at 200 Lees Avenue, Building E, Room 155D from 1-4pm.*

*The purpose* of this study is to identify assets and indicators for organizational resilience to help with evaluating the effectiveness of business continuity planning efforts.

**Permission to record:** Is it okay if I record the interview?

**Consent:** You have received a consent form to sign, which indicates your consent to this interview.

1. Please describe the role of your organization in Ottawa.

Probe: Does your organization provide services for people with functional limitations?

2. What is your role in the organization?

Okay, now we are going to switch gears and talk about emergency preparedness within your organization.

3. What does your organization currently do in terms of business continuity planning?
4. Have you ever participated in business continuity planning activities within your current organization or another?

Probe: Can you give me some examples of activities you were doing as part of that?

5. How do we get organizations more involved in business continuity planning activities?
6. I would like to understand your view of resilience. How do you define organizational resilience?

Probe: In general, what features of an organization indicate that it is resilient?

Probe: Features can include the structure, systems, politics, or other aspects of your organization you feel contribute to resilience.

**Definition:** For this study we are defining assets as “any factor (or resource) which enhances the resilience of individuals, groups, and/or organizations.”

7. What would you describe as ‘key assets or resources’ that could contribute to resilience of your organization in the event of a disruption to operational functioning?

Probe: this disruption could be due to a disaster in the community, in the organization or due to malfunctioning of some critical system

Probe: an asset can be a personal or organizational attribute, a skill or a capacity.

Probe: What assets do you currently have?

Probe: What assets are needed?

8. Does your organization have any experience with disruptions to operational functioning or being negatively impacted by a community disaster?

Probe: How did the disaster impact your organization?

Probe: How did your organization ensure its continuity of the functions?

Probe: What was done well?

Probe: What could have been improved?

9. What do you see as the role of your organization if there was a community disaster in your city?

10. How do you see your organization contributing to resilience of your community in the event of a disaster?

11. Is there anything that I did not cover that you feel is important?

12. Do you know of anyone else who may be interested in participating in this study?

Questions to add for the post-focus group interviews:

13. How would you describe your experience of participating in the consultation sessions on business continuity planning?

14. Did your experience in the session influence your opinion about business continuity planning in your organization? If so, please explain.