

# **THE ROLE OF SOCIAL CAPITAL IN SMALL BUSINESS DISASTER RECOVERY**

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*A MULTIPLE CASE STUDY OF CHRISTCHURCH AND KAIKŌURA  
BUSINESSES*

A thesis submitted in fulfilment of the requirements toward a doctorate degree in  
management at the University of Canterbury

By

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2019

## ABSTRACT

According to the Centre for Research on the Epidemiology of Disasters (2005), between 1994 and 2003 there have been 307 disasters each year culminating in USD \$55 billion in economic damages and 53,678 deaths per annum; on average. Although the field of disaster research has advanced considerably since the 1960's, scholarship has not sufficiently examined post-disaster recovery of small-to-medium-sized enterprises. Significant contributions made by small-to-medium-sized enterprises in communities wherein they operate include the manufacture, distribution and/ or sales of products and/ or services; employment opportunities; and the generation of municipal tax revenue. Hence, post-disaster recovery and survival for small-to-medium-sized enterprises is paramount for people and communities.

Post-disaster recovery for small-to-medium-sized enterprises is contingent upon their preparedness levels and response and recovery efforts. Traditional approaches to these contingencies have been through risk management strategies such as insurance and business continuity planning. Less understood is the role played by social capital toward post-disaster recovery efforts. Extant research on this topic is scant. This thesis addresses this gap in the literature by investigating how social capital was leveraged by New Zealand small-to-medium-sized enterprises toward their post-disaster recovery efforts after two catastrophic seismic events.

This qualitative multiple case study research employed semi-structured interview questions to collect data from 30 small-to-medium-sized enterprises located within two separate cities on the south island of New Zealand that experienced separate major seismic events in 2011 and 2016. Employing grounded theory methods to analyse the data, findings from this research showed that bridging social capital provided higher levels and more diverse forms of tangible post-disaster assistance to research participants than bonding or linking social capital. Moreover, a gap in the existing bonding, bridging, and linking social capital model was identified while analysing the data.

Under the current bonding, bridging, and linking social capital model; conceptual ambiguity related to bridging social capital exists that implicitly encompasses all resources beyond the distal side of the social capital bridge, including those that are unknown. Further, under the current bonding, bridging, and linking social capital model, *resources* accessed through bridging social capital are unrecognised as proprietary to other individuals and/ or organisations; as though stand-alone resources. This thesis addresses this theoretical gap through the taxonomic development of a social capital typology that exists beyond the distal sides of social capital bridges, referred to as *latent social capital*.

Accordingly, latent social capital is defined as a temporal form of social capital between entities that are previously unknown to one another accessed through bonding, bridging and/ or linking social capital. Latent social capital converts to bonding, bridging or linking social capital or dissolves after the entities that were previously unknown to one another are introduced. The findings from this research address gaps in extant literature regarding how small-to-medium enterprises leverage their social capital toward their post-disaster recovery efforts and the conceptual ambiguity related to bridging social capital.

## ACKNOWLEDGEMENTS

Researching and writing this thesis would not have been possible if not for the tremendous amount of support received during this journey first and foremost from my family. I would like to first express my gratitude to my wife, Barbara Bethany, for her unyielding support and encouragement over the past years. I also want to express thanks to my daughter, Mikayla Bethany, for her understanding during this time. I know how difficult it was not having me physically present in their lives during my time overseas and I am eternally grateful to them both for their patience. My mother, Polly Bethany was also very encouraging and supportive. I have also been very fortunate to have several close friends and colleagues that have been continuously encouraging throughout this journey.

I would like to extend special heartfelt thanks to my two peerless supervisors: Dr. Venkataraman Nilakant and Dr. Sanna Malinen. Their suggestions, guidance, and expertise shined like beacons when I found myself adrift in the fog of this research endeavour. Their lights shone bright helping guide me into port away from the proverbial rocks dotting the research coastline just as a lighthouse alerts ship captains as to the perils of obstacles in their midst. Without them I would surely be lost in this sea of post-graduate research. I could never express enough thanks my supervisors for their indefatigable support, encouragement, and guidance. Moreover, I could not have asked for a better supervisory team and was extremely fortunate to have them both on my team first as supervisors; now as dear friends.

The Resilient Organisations Research Programme and its founders: Dr. John Vargo and Dr. Erica Seville also need to be acknowledged for allowing me to be a part of their amazing group of researchers. I would not have embarked upon this research if not for the opportunity that I received from this fine programme and its founders. As part of this team of researchers and students I was given an amazing and unique opportunity for which words of gratitude are insufficient as they could never fully express my deep and sincere appreciation.

Similarly, the University of Canterbury was exceptional. The generosity of the university and support I received from staff members was unlike any I have ever experienced and will never be forgotten. Irene Joseph and Rosemary Fee need to be recognised for their continuous and multi-faceted support for this research.

Finally, to the research participants that made this research come to fruition – thank you for sharing your time, insights, and experiences. This was difficult for some participants because interviews occurred when some of their businesses were struggling to recover. Their generosity is only preceded by their resilience and will to carry on under very challenging circumstances. They are all truly inspirational and a testament to the human spirit of perseverance.

Completing this research project would not have been possible without the support I received from my family, friends, supervisors, and of course research participants. Each gave and/ or sacrificed immensely to facilitate this research. I will be forever endeavoured to their collective contributions and support. This thesis is dedicated to all of them.

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## **LIST OF ACRONYMS**

CERA	Canterbury Earthquake Recovery Authority
CRED	Centre for Research on the Epidemiology of Disasters
ISO	International Standards Organization
NFPA	National Fire Protection Association
USD	United States Dollar

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## PROLOGUE

### 2011 Christchurch Earthquake

Christchurch is located on the south island of New Zealand in the district of Canterbury and had a population of approximately 400,000 citizens in 2011 (Newell, Johnston, & Beaven, 2012). The Christchurch City Council (2017) estimates the population in Christchurch as of June, 2017 to be 381,500. However, the Christchurch (2017) estimates contradict population estimates provided by Newell, Johnston, & Beaven (2012). Yet, both estimates reveal Christchurch as the largest city on the south island of New Zealand and the third largest city in the country. On the afternoon of February 22, 2011 at 12:51 PM, Christchurch was shaken by a powerful and devastating 6.2  $M_w$  earthquake (GNS Science, n.d.a.). Having recently experienced an even larger earthquake on September 4, 2010; many buildings, especially older buildings built with bricks and mortar, were weakened. Although the 2011 earthquake was smaller in magnitude than the previous 7.1  $M_w$  earthquake in 2010, the impact from the 2011 earthquake was significantly greater. Contributing factors regarding differences in impact from the two earthquakes included (1) the shallow depth of the earthquake epicentre; and (2) close proximity to the Christchurch central business district. Damages from the earthquake shaking were severe. Structural damages to buildings tragically resulted in many lost lives with colossal damage to commercial buildings and homes. Damages caused by ground liquefaction were wide-spread.

According to the New Zealand Ministry for Culture and Heritage (2017), the 2011 Christchurch earthquake resulted in 185 lost lives, thousands of injuries, the demolition of thousands of residential properties, the abandonment of large tracts of land within Christchurch suburbs, and the demolition of over 50% of the buildings in the central business district of Christchurch. The Insurance Council of New Zealand (2017a) together with the Ministry of

Business, Innovation & Employment released its 2017 third quarter progress report for insurance claims for both residential and commercial properties on September 30, 2017. To date, \$10.15 billion (NZ) was paid out to settle residential claims related to the 2011 Christchurch earthquake and \$10.16 billion (NZ) for commercial claims totalling \$20.31 billion (NZ).

An Opinion-Analysis article written by Peter Townsend (2016), the former Chief Executive Officer for Canterbury Employer's Chamber of Commerce, provides perspective related to the damage extent resulting from the 2011 earthquake in Christchurch. Townsend (2016), reports approximately 25,000 residential properties suffered damages exceeding \$100,000 (NZ); whereas, approximately 10,000 homes were demolished. The exact number of commercial buildings demolished to date within Christchurch Central is elusive. One estimate made in a newspaper article written by Gates (2015) for The Press estimates that between the years 2011 through 2015, more than 1200 buildings had been demolished within the Christchurch central business district. These combined figures from Townsend (2016) and Gates (2015) illustrate the extent of the damage caused by the 2011 Christchurch earthquake. Five years later another large earthquake struck the Canterbury Region. This earthquake was centred close to the quaint coastal community of Kaikōura.

### **2016 Kaikōura Earthquake**

Kaikōura, New Zealand is remotely located on the south island coast in the Canterbury Region of New Zealand. Approximately 181 kilometres north of Christchurch; a two and one half hour drive by auto from Christchurch – Kaikōura – is a well-travelled global tourist destination. Both Christchurch and Kaikōura are governed by their local government authorities: Christchurch City Council and Kaikōura District Council; respectively. Based on data from the

2013 New Zealand Census published by Stats NZ (n.d.a.), approximately 2500 citizens lived within the Kaikōura District Council jurisdiction at the time of the 2013 census.

The 2013 census data further shows that the economy of Kaikōura is driven and relies heavily upon tourism. Accommodation and food services employ 19.5% of the population; another eight percent of the population works in retail. The second largest industry sector employer in Kaikōura is agriculture, forestry and fishing with nearly 18% of the 1832 residents sampled in the 2013 New Zealand census. Seven percent of Kaikōura residents are employed in transportation, postal services and warehousing. Kaikōura has many major family tourist attractions such as whale and dolphin watching and adventure tourism attractions such as surfing, kayaking, hiking, mountain biking, and fishing. Many cottage businesses in Kaikōura rely on the anchor attractions and businesses for the resulting foot traffic they generate as well as from northbound and southbound drivers travelling through Kaikōura.

Kaikōura is connected to Christchurch and Picton by a coastal highway, State Highway 1 South (State Highway 1). Additionally, the South Island Main Trunk Railway runs parallel to State Highway 1 providing an efficient logistical link between Kaikōura and other destinations within New Zealand and beyond. The stretch of the southern portion of State Highway 1, also the longest road in New Zealand; incidentally, is the main road connecting Kaikōura to Christchurch in the south and to Picton to the north. Because of the earthquake and resulting land slips, State Highway 1, the logistical supply line for Kaikōura, was rendered inaccessible from both directions in less than 120 seconds. Kaikōura was cut off.

GNS Science (n. d. c) reports, at 12:02 A.M. (NZDT) on November 14, 2016, a very large earthquake occurred 15 kilometres north-east of Culverden, a small town in the northern Region of Canterbury. The town is approximately 100 kilometres north of Christchurch and 100

kilometres south of Kaikōura. Essentially, Culverden is half way between Christchurch and Kaikōura. Though the epicentre of this 7.8 Mw earthquake was distant from Kaikōura and Christchurch, its violent shaking was an unforgettable experience to this author.

I was in my room hovering over my computer when I first heard and then felt the rumble of the primary seismic wave. I moved toward the front door to the home just outside of my bedroom and placed my hand on the doorknob as I contemplated exiting the residential building. I waited for a cessation of the rumbling; instead of waning it intensified. I catapulted out of the front door like a projectile and stood in the front yard staring up at the three gables on the second floor for a few seconds.

As I gazed on, I had an epiphany. Should the gables I was standing beneath become dislodged from the structure I would be crushed or if any pieces of roofing tile fell from their moorings and struck me I would be severely injured; perhaps even mortally. Thus, I moved away from the gables and the potential harm associated with falling pieces of roofing material toward the lowest side of the home where there is also no tile on the roof. The earthquake steadily grew in intensity. The ground moved laterally; it was challenging to remain standing so I widened my stance for stability. Standing in the front yard throughout the secondary seismic wave was similar to the sensation of standing upright in a small skiff floating atop turbulent water. Underneath my feet the ground moved as though made of liquid. I noticed my flat mates exiting the home and directed them away from the three gables and over to where I was standing on the low side of the structure.

Together, we stood in awe as we watched the home we just exited swayed to and fro as though its foundation was built upon gelatine and framed with rubber studs. The tiles from the roof growled as they grinded against one another throughout the lateral movement of the home

that we had all just exited. The ground moved for approximately two minutes but at that moment it felt as though time stood still; it was the longest two minutes imaginable.

As my flatmates and I watched the house sway from side-to-side, I remember thinking that if the earthquake continued for much longer or if it grew in magnitude that the home would surely collapse. Once the shaking subsided, a latent feeling of instability remained. There was a feeling that I can only describe as similar to walking after riding a bicycle all day long; my gait just didn't normal. The rippling and rolling sensation from the ground movement remained in my body for approximately 15-30 minutes. I surveyed the exterior of the home for cracks, separation, and other damage. With some trepidation I re-entered the home. Peaceful slumber was elusive that night as the worry of aftershocks or another large earthquake loomed throughout the early morning.

The concern about aftershocks is not unfounded. According to GNS Science (2017), in the last year, as of November 13, 2017, there have been more than 19,000 aftershocks. The following day, the extent of the damage from the earthquake became visible with the rising of the sun.

State Highway 1 was inaccessible; both north and south. Numerous news reporters broadcast debris-covered tunnels and road surfaces; in some places the road cracked wide open. Dr. Kelvin Berryman, General Manager of Natural Hazards Strategic Relationships with GNS Science (n. d. b), explains the amount of earth movement in a video posted on YouTube by Radio NZ. Standing at the Papatea fault plane, Dr. Berryman shows approximately one and one half metres of uplift along the fault plane – the surface area where two areas of land slip during an earthquake and form a visible fault line – and up to **six metres** of uplift just beyond the Papatea fault plane.

An Earthquake Engineering Research Institute reconnaissance report prepared by Bradley et al. (2017) describes the complexity of the 2016 Kaikōura earthquake and the multitude of fault ruptures. Some faults were known to scientists; others were unknown until the 2016 earthquake. Classified as a “multi-segment rupture” event, Bradley et al. (2017) found that numerous fault segments contributed to this earthquake including, “The Humps, Hundeelee, Hope, Jordan Thrust, Kekerengu, Needles, and Papatea Faults (p. 3).

The Kaikōura earthquake caused massive infrastructural damage to overland transportation networks along the coast including State Highway 1, and to the north line of the South Island Main Trunk Railway; resulting in “tens of thousands of landslides” (Bradley et al., 2017, p. 10). Some landslides blocked mountain valleys and created natural dams with debris. One of the largest such landslide-induced dams blocked the Hapuku River. The natural dams created by landslides causes concern among scientists regarding future flooding and catastrophic dam failure during heavy rain events. Bradley et al. (2017, p. 12) assert:

Of particular concern are the debris flood hazards that might occur should some of the landslide dams breach catastrophically. Several of these dams are located upstream from people and critical infrastructure such as road bridges, which might be at risk if the hazard were to occur.

Additional damages, hazards and disruptions associated with the 2016 Kaikōura earthquake included liquefaction; a small tsunami; damage to buildings; disruption of telecommunications and utilities services such as electricity, water, sewer, and fuel deliveries; a changed seascape and landscape due to the uplifting of the sea floor; and disruptions to the tourism-based economy of Kaikōura.

Liquefaction damages associated with the Kaikōura earthquake were less significant than those associated with the 2011 Christchurch earthquake. Blenheim and Wellington had the most visible signs of liquefaction, predominantly in rural land areas (Bradley et al., 2017). However,

bridges were affected by “liquefaction and lateral spreading . . . in North Canterbury, Marlborough” and along the “Wellington waterfront” (pp. 12-13).

Low-tide conditions at the time of the Kaikōura earthquake combined with the uplift of the coastline mitigated the threat of tsunami inundation triggered by the earthquake. The peak amplitude of the tsunami recorded was 2.31 metres, according to Bradley et al. (2017), with only one report of damage. A home in Little Pigeon Bay was inundated with water caused by the tsunami tidal surge and the structure was moved off its foundation which resulted in partial collapse of its exterior walls. Within the city of Kaikōura, damage to buildings was more significant.

Kaikōura District Council (2017) reports that immediately after the Kaikōura earthquake, 289 red or yellow placards were placed on buildings. A red placard indicates an unsafe building with absolute restriction of entry. A yellow placard indicates entry is permitted but restricted. Currently, the Kaikōura District Council (2017) reports approximately 14 properties are at unacceptably high risk to life from natural hazards and/ or land damage and 25 properties at Lyell Creek are located on land that is unfit to build upon. A report issued by the Insurance Council of New Zealand (2017b), places the number of claims to private insurers associated with the Kaikōura earthquake at 44,000 with over 39,000 in residential claims and the remainder in commercial claims totalling over \$2 billion (NZ) with \$1.47 billion (NZ) in commercial claims and \$600 million (NZ) in residential claims. These figures do not include claims handled by the Earthquake Commission. Insurance settlements related to structural damage to properties in Kaikōura continue but the local economy in Kaikōura has yet to fully recover.

Although loss of life caused by the 2016 Kaikōura earthquake was relatively low with two confirmed deaths, the economic impact to Kaikōura was significant. Kaikōura relies heavily

upon tourism and agriculture for its livelihood. Closure of State Highway 1, especially the north section of the highway connecting Kaikōura to Blenheim, Nelson and Picton, has reduced traffic from tourists significantly. According to a special Crown report by New Zealand Treasury (2016), the impact to local industries in Kaikōura; especially hospitality, retail, seafood, dairy, and wine, is expected to be significant as a result of closures in overland transportation routes. According to Stats NZ (n. d. b.), as of September, 2017, the number of tourists staying overnight in Kaikōura is 40 percent less than it was in September, 2016. Another report from Stats NZ (2017) states that retail sales in Kaikōura were 25 percent lower in the March 2017 quarter than in the March 2016 quarter.

Kaikōura has a seasonal economy. Hospitality, accommodations, and retail businesses in Kaikōura rely on revenue generated during the high-peak tourism of the summer months; December through February. The 2016 Kaikōura earthquake occurred approximately one month before the busy summer season. Many local businesses anticipated 2016 would be a boom summer season. However, after the earthquake, tourists avoided Kaikōura as a destination during the 2016 summer season rendering trading activity for many businesses at levels associated with the less busy, winter months. To be sure, the Kaikōura earthquake changed the environmental landscape. Yet, it also changed the economic landscape.

Post-disaster recovery, especially from large disasters is challenging for some businesses. This study investigates risk management strategies used by small-to-medium-sized enterprises in New Zealand, defined in Ministry of Business, Innovation, and Employment (2016, p. 23) and adopted in this thesis as organisations with “fewer than 20 full time employee (FTE) staff members,” to recover from large disasters. Business insurance, an important risk management component, is not the focus of this research. Secondary and/ or alternate risk management

strategies are the focus; particularly, how small-to-medium-sized enterprises in Christchurch and Kaikōura leveraged their personal and/ or business networks during and/ or after the earthquakes. Details on if and how personal and/ or business network(s) were leveraged to respond to and/ or recover from the disaster events as well as how networks are created and maintained represent the seminal part of this study. This thesis endeavours to search for answers to these questions.

# **CHAPTER 1**

## **INTRODUCTION**

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## **Chapter 1 - Introduction**

Inexorably, natural and human-induced disasters will continue affecting human populations. This post-disaster research investigates how small-to-medium-sized enterprises in Christchurch and Kaikōura, New Zealand leveraged their social capital toward post-disaster recovery efforts. Conceptually and simplistically, inter-personal relationships and/ or social networks constitute social capital.

Originally, this research was focused on small-to-medium-sized enterprises in Christchurch affected by the 2011 Christchurch earthquake. However, shortly after commencing interviews with participating organisations from Christchurch in November of 2016, a massive earthquake struck between Christchurch and a town north of Christchurch called, Kaikōura. Subsequently, this research expanded to include 18 small-to-medium-sized enterprises affected by the 2016 Kaikōura earthquake.

Social capital in a post-disaster context has been studied at individual and community levels (Aldrich, 2012; Elliott, Haney, & Sams-Abiodun; Hawkins & Maurer, 2010). However, post-disaster studies focused on businesses are limited (Chang & Falit-Baiamonte, 2003; Dahlhamer & D'Souza, 1995; Dahlhamer & Tierney, 1996; Piper & Banks, 2011; Runyan, 2006; Tierney, 2006; Webb et al., 2000; Webb, Tierney, & Dahlhamer, 2003). Moreover, post-disaster studies examining how organisations leverage social capital toward their response and/ or recovery efforts are virtually non-existent. This research aims to fill this research gap by investigating if and how organisations from two different cities on the south island of New Zealand that experienced two separate and distinct disaster events occurring approximately five years apart used their social capital toward their respective post-disaster recovery efforts.

This chapter provides an overview of this research. Extant social capital research and its gaps are discussed underscoring the novelty and importance of this research. Theoretically linked; research questions and objectives are expressed, the research design and its relation to the research questions are explained, and the thesis chapters are described. A discussion regarding the contributions made to the existing body of knowledge through this research concludes the chapter. Antecedent is a discussion on the importance of this research.

### **Research Importance**

The terms: small and medium-sized enterprise(s), organisation(s), business (es) are used interchangeably throughout this thesis with the same meaning. Additionally, research participant(s), participating organisations, and participant(s) are also interchangeable terms that refer to the organisation(s) and/ or their participating representative(s) in this research. No intended differences in meanings exist between the afore-mentioned interchangeable terms.

Contained within the composite layers of trade and commerce, small-to-medium-sized enterprises and other organisations collectively contribute to local, national and global economies. Organisations are the progenitors of trade and commerce providing employment opportunities; producing and distributing goods; providing services, and supporting municipally-funded public services through tax revenue. Tangible benefits for individual employee well-being manifest primarily in terms of monetary compensation. However, intangible benefits also exist including employee psychological well-being.

Healthy work environments satisfy the human need for inter-personal connectedness and contribute to employee emotional well-being. Social environments within and between organisations provide fertile ground for strong social connections to emerge. Social connections created within and between organisations occasionally extend beyond the confines of

organisational structures and into our personal lives thereby strengthening community ties.

Small-to-medium-sized enterprises also contribute handsomely to the gross domestic product.

Providing perspective on the importance of New Zealand small-to-medium-sized enterprises, and depicted in Figure 1.1 (below), a report by New Zealand's Ministry of Business, Innovation & Employment (2017) asserts that of 515,046 businesses operating in New Zealand, 97 percent (499,944) employ less than 20 employees. The 2017 Ministry of Business, Innovation & Employment report further estimates that 28 percent of the gross domestic product of New Zealand is produced by enterprises with fewer than 20 employees.

The International Monetary Fund (2017) projected the New Zealand gross domestic product in 2017 to be approximately \$198.043 billion (USD). Simply stated, small-to-medium-sized enterprises with less than 20 employees are forecast to contribute an estimated \$55.45 billion (USD) toward the 2017 New Zealand gross domestic product. Accordingly, post-disaster small and medium-sized enterprise recoverability and survivability is monumentally important for individuals, communities and economically.

Post-disaster business recovery success and speed is influenced by a number of factors. For example, the ability of small-to-medium-sized enterprises to access resources is a significant factor in their post-disaster recovery trajectory and success. Typically, small-to-medium-sized enterprises have fewer resources available for post-disaster recovery than larger organisations underscoring the importance of capitalizing upon all post-disaster resources available to organisations that might facilitate their recovery; including social capital.

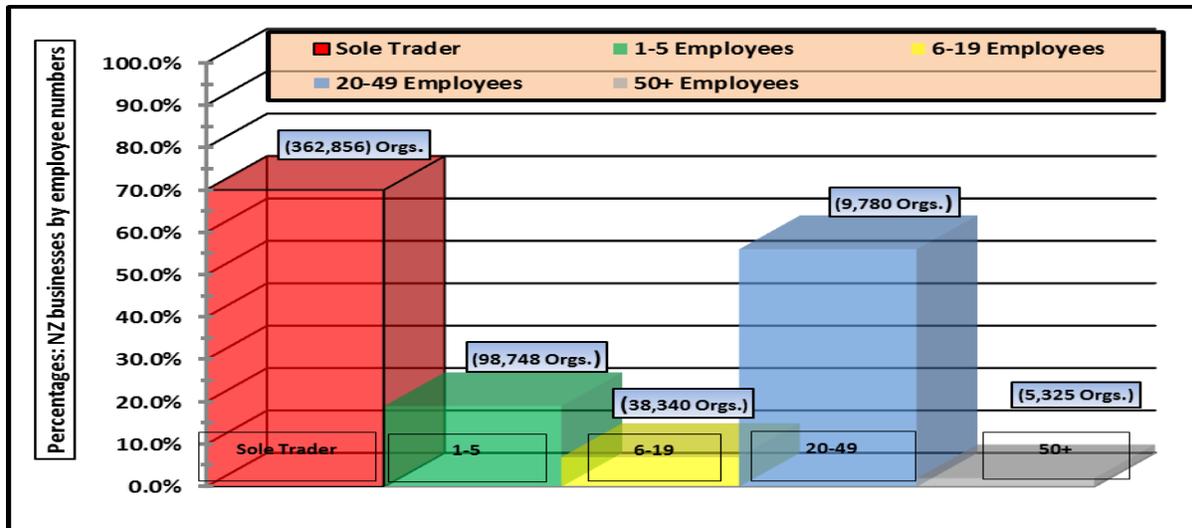


Figure 1.1. NZ businesses categorised by workforce size. Adapted from “Small businesses in New Zealand: How do they compare with larger firms?” (Ministry of Business, Innovation, and Employment, 2017).

Post-disaster recovery using all viable risk management strategies should; in theory, increase small and medium-sized enterprise post-disaster survivability. Ample research exists related to business insurance and business continuity planning. Notwithstanding its importance, insurance does not always fully meet an organisation’s post-disaster response and/ or recovery needs. Additionally, many businesses do not engage in business continuity planning. Although social capital research is *well-tilled soil*, knowledge related to its use by small-to-medium-sized enterprises as a post-disaster recovery resource is virtually, non-existent.

### Research Novelty

Extensive qualitative research has been undertaken to analyse the impacts that disasters have upon businesses, local economies, and the national gross domestic product of a country. However, gaps in the literature exist regarding how social capital is leveraged by small-to-medium-sized enterprises toward their post-disaster recovery efforts. This research was undertaken to bridge some of those gaps. Additional novelties from this study exist.

Until recently, academic research examining how small-to-medium-sized enterprises leverage social capital was generally scarce (Aldrich, 2012; Arregle, Hitt, Sirmon, & Very, 2007;

Dynes, 2002; McGuinness & Johnson, 2014). The paucity of research related to this topic is increased when viewed through a disaster lens. This research bridges that gap in our knowledge and adds the following variables: 1) the disasters happened within the country of New Zealand; (2) the disasters were seismic events; (3) the disasters happened in two separate cities; and (4) the disasters were separated by approximately five years. The benefits provided by small-to-medium-sized enterprises, both tangible and intangible, highlight the importance of their continued operations post-disaster. Calling for additional research on this topic, Van der Vegt, Essens, Wahlström, and George (2015) posit that research investigating variables that facilitate collaboration between organisations prior to, during and after disaster events would contribute significantly toward increasing knowledge related to mitigating and managing disasters.

Social capital, in a post-disaster context, has been investigated predominantly at the individual and community levels. Aldrich (2012) states that disasters cause physical damage and destruction to organisational assets such as buildings, infrastructure and inventories; however, inter-personal relationships and social networks—aggregated as social capital—are less impacted and are instrumental in assisting individuals and communities with recovery and rebuilding efforts during and after disasters. Interestingly, social capital was long over-looked by scholars (In Leenders & Gabbay, 1999); more so when viewed through a disaster lens (Aldrich, 2012).

However, several studies indicate expeditious access to resources is an instrumental variable for an organisation's operational recovery, post-disaster (Doerfel, Lai, & Chewing, 2010; Dynes, 2002; McGuinness & Johnson, 2014; Stevenson et al., 2014). Similar to the subject matter of this thesis was a study of 22 small-to-medium-sized enterprises from a variety of industry sectors in the United Kingdom that survived a devastating flood in 2007. McGuinness and Johnson (2014) found that by leveraging their social capital, the small-to-medium-sized

enterprises that participated in the study were able to “obtain necessary resources to help them survive the impacts” of the flood (p. 447); adding, “Achieving resilience demands rapid access to, and effective use of diverse resources” (p. 449). Similarly, Stevenson et al., (2014) in a study examining organisations in the Canterbury Region of New Zealand after the 2010 and 2011 earthquakes, found that organisations that had access to resources through their relational networks were better positioned to respond to the operational challenges created by the earthquakes to their organisations. Capturing the essence of how social capital facilitates access to resources, Dynes (2002) asserts that social capital enables social actors to use it “as a resource to pursue their goals” (p. 4).

Research conducted by Hatton (2015) and Stevenson (2014) provide insights into how social capital was used by organisations to address recovery needs after the 2010 and 2011 Christchurch, New Zealand earthquakes. Hatton (2015) conducted interviews with decision-makers from 26 Canterbury organisations and concluded that collaboration was “an effective disaster recovery strategy” (p. 158). Many of the decision-makers from the organisations in the Hatton (2015) study were introduced through their personal social networks – their social capital. However, social capital was not the focus of the Hatton (2015) study.

Components in the research conducted by Stevenson (2014) also examined social capital in a New Zealand disaster context. Using the 2010 and 2011 Christchurch earthquakes as the disaster events, Stevenson (2014) conducted case studies of 32 organisations in the Canterbury Region of New Zealand. Stevenson (2014) found that organisations with pre-existing networks were better positioned to “access resources and information from a wider base of support following the earthquake” than organisations lacking such pre-existing networks (p. 245). Less

understood is how organisations create and maintain social capital. Indeed, Stevenson (2014) suggests more research should be conducted in this area, stating,

attention needs to be paid not only to which ties are activated for what purposes, but also to how the ties are cultivated in the social environment over time and how organisations adapt, maintain, and renegotiate their ties for different purposes” (p. 261).

Creating, maintaining and exploiting social capital toward increased organisational resiliency and continuity of organisational operations is important for (1) sustaining the small-to-medium-sized enterprises themselves; (2) sustaining the communities where the organisations are trading; and (3) sustaining individuals both during and after disasters. However, within the existing body of post-disaster social capital research, gaps exist. Providing windows through which to direct the post-disaster research lens, the 2011 Christchurch and 2016 Kaikōura earthquakes provided unique backdrops against which to ask questions related to how small-to-medium-sized enterprises leveraged their social capital toward their respective post-disaster recovery efforts; and, toward closing gaps in the research literature.

### **Research Objectives and Questions**

Post-disaster business research has traditionally been and continues to be predominantly quantitative and heavily survey-reliant. Departing from this orthodoxy, this post-disaster business research is qualitative. This research is a comparative, multiple case studies of 30 small-to-medium-sized enterprises from Christchurch and Kaikōura, New Zealand. The qualitative, inductive, and constructivist approach used in this research facilitated richer and deeper meaning and perspective from research participants in responses to semi-structured research interview questions.

The semi-structured research questions used in this study were predominantly related to risk management strategies employed by research participants and the role played by social

capital in the post-disaster recovery efforts of the research participants. Characteristic of qualitative research, loosely structured research questions provided fluid subject-matter parameters from whence iterative processes facilitated the identification of dominant concepts relative to this study as revealed by the research participants themselves. Employing semi-structured interview questions provided a focal structure for this research. Additionally, using semi-structured interview questions provided consistency inasmuch that research participants were all asked the same key research questions. Research question focal points were organised categorically by topics such as risk management strategies employed by research participants and; if and how participants used social capital toward their post-disaster business recovery efforts.

Within the risk management topic or category, insurance and business continuity planning are risk management strategy typologies. Research questions relevant to business continuity planning focused predominantly on business continuity planning levels. Insurance questions queried policy type(s); damage severity; and trust levels that participants had toward their respective insurance companies. Although not a risk management strategy, participants were queried about post-disaster government assistance that they received; if any.

### **Research Design**

This section introduces the philosophical assumptions of the researcher; data collection; data analysis method(s); and the contribution(s) made by this study to our collective body of knowledge. Creswell (2013) posits that qualitative research flows “from philosophical assumptions” outward as depicted in Figure 1.2 (below) to create a framework for investigating “social or human problems” (p. 44). Accordingly, this section begins with a discussion on philosophical assumptions.

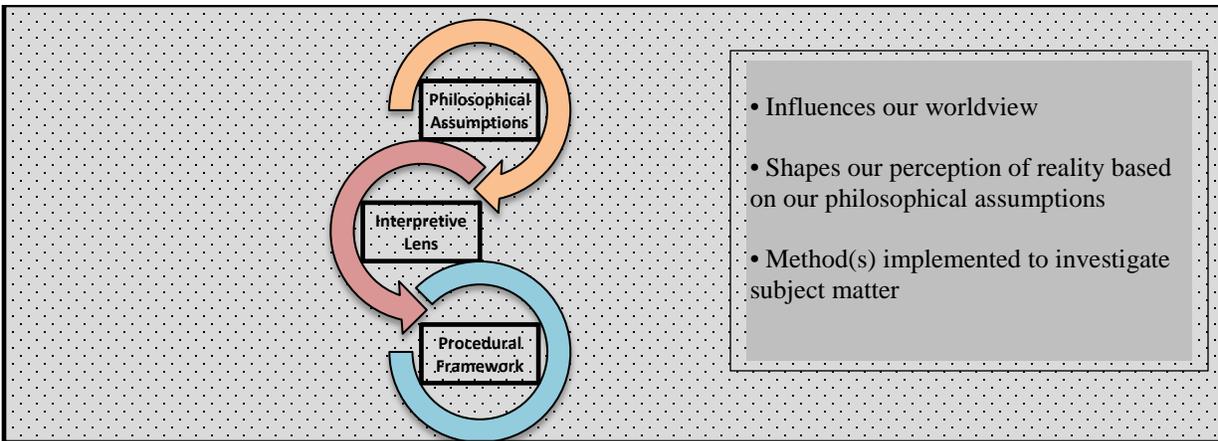


Figure 1.2. Qualitative Research Process (Adapted from Creswell (2013)).

### **Philosophical assumptions.**

Categorically, this research is nestled under the interpretivist paradigmatic canopy. Hence, an interpretivist framework was adopted for this qualitative study. Methodologically, a multiple case study design was used to collect data. Finally, data analysis methods commonly used in grounded theory research was used to analyse the data collected in this study.

### **Data collection.**

This study used data collected from research participant interviews; government publications; news articles; grey literature; post-graduate research; and peer-reviewed journal articles. Data for this study was collected exclusively through 30 interviews with small and medium-sized enterprise owners and/ or managers. Twelve small-to-medium-sized enterprises participating in this study are from Christchurch; 18 are from Kaikōura. A more detailed accounting of data collection methods used for this study is presented in chapter four.

### **Data analysis.**

Researcher memoranda recorded initial thoughts immediately after each interview. Digital audio recordings of each interview were made for post-interview transcription. Once the transcription of an interview was completed, a copy of the transcript was provided to the research

participant via email attachment to verify its accuracy. During the transcription process, themes and/ or patterns emerged. A coding scheme was developed to categorise and make sense of the data.

An *elemental* coding method profile was implemented during the first cycle of coding (Saldaña, 2016). First-cycle coding consisted of *provisional*, *attribute*, *structural*, *process*, and *In Vivo* coding techniques. *Attribute* coding was employed to capture research participant demographic data. Several a priori, researcher-created *structural* codes relevant to the general research topics of this study were included in the coding scheme. Multiple cycles of data analysis required additional coding cycles.

Second-cycle coding was performed using *axial* and *magnitude* coding methods (Saldaña, 2016). *Axial* coding helped identify major categories, codes, concepts, and/ or themes while also facilitating the consolidation and reduction of code volume generated during first-cycle coding. *Magnitude* coding was applied to provide dimensional attributes to data axes identified through axial coding. *Theoretical* coding was employed as a final coding step toward data-grounded theoretical development. Saldaña (2016) opines, “A Theoretical Code functions like an umbrella that covers and accounts for all other codes and categories . . .” (p. 250).

### **Research Contribution**

Findings generated through this research illuminate an area of research that has been largely overlooked by academicians. To be sure, quantitative research related to the economic impacts of disasters upon businesses; especially large businesses, exists. However, as already mentioned, few scholarly studies have examined how social capital is leveraged by organisations toward their post-disaster business recovery. Hence, the novelty of this research is one contribution. Multivariate research attributes further isolate this study from extant research.

Research variables specific to this research are that it is (1) a qualitative, (2) multiple cases study; (3) of New Zealand small-to-medium-sized enterprises; (4) operating in a post-disaster context; and (5) investigating if and how *social capital* was leveraged toward organisational post-disaster recovery efforts.

Findings from this research contribute to existing bodies of academic knowledge regarding social capital; business management; risk management; and emergency management. Additionally, findings and/ or theory generated through this research have the potential to move beyond academic theory into praxis. The distinctive academic contributions made through this research include: (1) a finding as to the specific social capital typology that provides small-to-medium-sized enterprises with the most tangible form(s) of post-disaster recovery assistance; and (2) the concept of *latent social capital*; an addition to the contemporary bonding, bringing, and linking social capital model. These contributions are discussed in more detail in Chapter 7.

Understanding social capital and its role in post-disaster small and medium-sized enterprise recovery provides new insights on if and how small-to-medium-sized enterprises use their respective social capital to recover from disasters. This research has contributed significantly toward increasing this understanding. Extending beyond academia, this study is informative for small-to-medium-sized enterprises, government agencies and other interested parties in the areas of risk management, business continuity planning and social capital. This chapter concludes by outlining the structure of this thesis.

## **Thesis Structure**

This thesis consists of seven chapters. Although this is qualitative research, numerous visual data in the form of figures and tables accompany textual data for the purpose of conveying

large amounts of information, holistically. Thesis chapters are identified and explained below beginning with the second chapter.

### **Chapter 2 – Literature review.**

The second chapter is a critical review of existing research and academic literature related to business continuity planning and social capital. The review of social capital literature is intentionally formatted chronologically and conceptually for the purpose of establishing a strong foundational anchor from whence the origins and evolution of social capital may be conceptually benchmarked, compared and understood. The work of leading social capital scholars that influenced this research is discussed.

### **Chapter 3 – Methodology.**

The third chapter informs the reader about the research methodology adopted for this study and the rationale behind those methodological decision(s). Embedded in the discussion, researcher philosophical predilections are addressed followed by a discourse on the framework implemented for this research. Chapter three concludes with a brief discussion on the research methodology traditionally employed in disaster studies.

### **Chapter 4 – Data collection.**

The discussion on the methods employed to collect data for this study is preceded by an extensive overview of the post-disaster environments from whence data in this study was collected. Specific characteristics of the two earthquakes such as seismic complexity; structural damage; infrastructural damage; and economic impact are discussed to frame the research in its proper context. A description of the sampling and research participant criteria adopted for this research segue to a discussion of data collection and storage methods.

## **Chapter 5 – Data analysis.**

The fifth chapter of this thesis is a detailed accounting of the methods employed in this research to analyse the vast amount of data collected. This study closely adhered to elemental tenets of data analysis found in grounded theory studies. Explanations of the various data coding techniques applied to the data in this study are provided. Code mapping and data theming are also discussed with examples of both techniques illustrating their use and importance in this study. Chapter five concludes with a discussion on the criteria for assessing this research design and its construct validity.

## **Chapter 6 – Research findings.**

Chapter six is a detailed presentation of the findings from this research. Numerous figures and tables comprehensively convey large amounts of the research findings throughout the chapter to provide holistic vantage points of the data. Visual representations of research findings are accompanied and supported by research participant anecdotes and quotes. Research findings are presented categorically and include: organisational demographics; organisational risk management; organisational social capital; and emergent theory.

## **Chapter 7 – Discussion.**

Chapter seven reviews and discusses the more salient findings that were presented in the preceding sixth chapter. Elaborations are provided regarding organisational demographic differences between participating organisations; comparative analyses of the organisational risk management strategies reported by participating organisations; the importance of government support packages to New Zealand small-to-medium-sized enterprises during post-disaster recovery; and organisational social capital typologies including *bonding*, *bridging*, and *linking* social capital that were leveraged by participating organisations toward their post-disaster

recovery efforts. Additionally, a discussion regarding the scholarly contributions of this research; the practical implications associated with the research findings; the research limitations; and future research recommendations are discussed.

### **Chapter Summary**

This chapter introduced the subject matter of this research to the reader stressing its importance and novelty. After clearly expressing research objectives and questions, an overall description of the research design was given that included a discussion and acknowledgement of researcher philosophical predilections. A brief description of the data collection and analysis methods employed in this study preceded a discussion regarding the academic contributions made through this research. This chapter concluded with a delineation of the thesis structure including brief synopses of the thesis chapters and their titles. The next chapter is a critical review of extant business continuity planning and social capital literature.

# **CHAPTER 2**

## **LITERATURE REVIEW**

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## **Chapter 2 - Literature Review**

### **Introduction**

This chapter begins with a section on business continuity planning. The objective is to introduce readers to business continuity planning as a concept. Therefore, the business continuity planning section of this literature review is less critical than expository. The second section of this chapter is a review of social capital literature; the dominant field of enquiry relevant to this research.

Compartmentalised, topics are introduced separately. The business continuity planning and social capital sections commence with their individual conceptual origins and continue through their respective evolutionary trajectories. Providing comprehensive, clear, fluid, and scalable data for readers that was also interesting required an appropriate presentation structure.

Chronology provided such a structure around which to build and give depth to this review. Importantly, establishing conceptual foundations on the topics relevant to this research, as incorporated herein, was best achieved through building and layering upward from conceptual foundations; important for readers unfamiliar with these research topics and concepts.

An expository and critical review of extant business continuity planning and social capital literature serves two important objectives. The first objective is provisioning readers with ample subject-matter information relevant to the present study. Secondly, gaps in the literature are revealed that this study aspires to contribute toward filling. The focus of this study, how small-to-medium-sized enterprises in New Zealand leveraged their social capital toward their post-disaster recovery efforts, revealed an additional gap in the literature. Through this thesis, this author aspires to make academic contributions in the fields of disaster research, social capital, and business continuity planning.

## **Business Continuity Planning**

Disaster research and mitigation efforts began more than 75 years ago. The dominant focus then was protecting communities and man-made environments. Methods implemented toward those efforts included insurance; land-use management; strengthening building codes; disaster preparedness planning; and disaster response planning and training. Beginning in the 1970s, a subset of disaster preparedness planning emerged to address the needs of businesses.

During the latter part of the 1970s as digital technology became increasingly ubiquitous throughout the business world, businesses recognised that they needed to protect their data from loss associated with computer malfunctions, power outages and other unforeseeable events that could compromise their business operations. Additionally, businesses recognised that they needed to be able to quickly recover data in the event of an incident. The term *disaster recovery*, coined during this period, described “. . . strategies and plans developed to restore IT [information technology], telecommunications, and other related technology” (Kildow, 2011, p. 7). Widespread adoption of information technology by businesses to conduct their day-to-day operations resulted in policy-makers enacting industry-specific regulatory requirements for businesses in the financial and health sectors to safeguard customer data from loss. Disaster recovery planning was the method that was implemented to safeguard the data.

### **Disaster recovery planning.**

Originally and throughout the 1970s, disaster recovery planning strategies were conceived to protect digital content housed within proprietary computer systems and their networks. However, the concept of disaster recovery planning expanded to include backup systems for digital data; redundant and diverse proprietary business digital systems and/or networks; and secondary locations from whence to continue operations in the event of some

impact to an organisation's primary business location. The objectives of disaster recovery strategies sometimes overlapped with those of supply chain management.

### **Supply chain management.**

Throughout the 1980s and 1990s, information technology continued to proliferate. Consequently, businesses increasingly relied upon computerized systems for their business operations; especially for inventory and supply chain management. Increasing reliance upon IT systems paved the way for a broader-scoped supply chain management system. *Enterprise resource planning* was the new approach to supply chain management that was being promoted. Tenets of enterprise resource planning urged contingency planning throughout an organisation's entire supply chain (Kildow, 2011).

Business planners in the 1990s realised that data recovery plans alone might not be sufficient toward restoring business operations in the event of business disruptions. Moreover, business planners acknowledged that “. . . critical business processes of each unit of the organization must be considered in the disaster planning process and . . . in the development and implementation of recovery strategies” (Kildow, 2011, p. 10). The by-product of this metamorphosis in the disaster recovery planning process was the genesis of business continuity planning. Since the 1990s, business continuity planning has become a recognised professional field in its own right drawing from the fields of emergency management, information technology management, risk management, and supply chain management. Industry-specific organisations must now operate in compliance with regulatory business continuity planning requirements and standards.

### **Industry-specific business continuity planning requirements.**

According to Kildow (2011), federal laws were enacted in the United States requiring organisations operating within the financial, health, and pharmaceutical industrial sectors as well as publicly-traded companies to implement and maintain business continuity planning programs that include a disaster recovery component. Table 2.1 (below) is a quick-reference guide that lists laws pertinent to business continuity planning and the specific industries targeted by federal regulators in the United States requiring organisations operating in those sectors to engage in business continuity planning. Business continuity planning is a process uniquely specific to an individual organisation. However, the business continuity planning process contains elements universal to all organisations engaging in the planning process.

### **Business continuity planning process.**

Each business organisation is unique. Therefore, business continuity plans must be uniquely tailored to meet the needs of each individual organisation. Nevertheless, business continuity planning includes processes that all organisations must undergo. First and foremost, approval and endorsement for the business continuity program from executive-level management is required. Next, the organisation must assess the various risks to the organisation. Once the risk assessment has been completed, the organisation must evaluate the impact to the organisation that the risk(s) represents should it come to fruition. This step is referred to as a business impact analysis. Once the risk assessment and business impact analysis have been completed, the business continuity plan is conceptualised and developed. Once completed, the business continuity plan is implemented. Business continuity plans need continual testing, monitoring and evaluations to identify vulnerabilities and areas for improvement.

**Table 2.1. US Laws and regulations pertinent to business continuity planning (Bethany, 2007).**

Year	Title of Law or Regulation and Pertinent Code Section(s)	Industry
1968 1992	Consumer Credit Protection Act 15 U.S.C. § 1601 (1992 Amendment)	Financial
1977	<i>Foreign Corrupt Practices Act (FCPA)</i> 15 U.S.C. § 78m (b)(2); Emergency action plans; 29 CFR, §1910.38(c)	American Businesses
1978	Food and Drugs (FDA)—Recalls 21 CFR, Subpart C § 7.40-7.59	Food and Drug
1979/ 1989	<i>Federal Financial Institutions Examinations Council</i> (Title X Financial Institutions Regulatory and Interest Rate Control Act of 1978 – established the Council; Title XI Financial Institutions Reform, Recovery, and Enforcement Act of 1989)	Financial
1996	Health Insurance Portability and Accountability Act (HIPAA). Title II—Preventing Health Care Fraud and Abuse; Administrative Simplification Health Insurance Reform: Security Standards; Final Rule (45 CFR Parts 160, 162, and 164)	Health
1999	Gramm—Leach—Biley Act (GLB) 15 U.S.C. § 6801, <i>et seq.</i>	Finance
1998  2002	Examination of returns and claims for refund, credits or abatement; determination of correct tax liability. (IRS records retention for taxpayers with over \$10M in assets rule). 26 CFR 601.105; IRC § 6001 <i>et seq.</i> Rev. Proc. 98-25; Rev. Rule 71-20	Entities and individuals with assets over \$10M
2002	Sarbanes—Oxley 15 U.S.C., Ch. 98, § 7602 and 7605; Public Law 107-204	Publicly-traded companies
2002	Federal Trade Commission 16 C.F.R. 314.4 <i>et seq.</i>	Financial Institutions
2004	Intelligence Reform and Terrorism Prevention Act of 2004 (Public Law 108-458, § 7305; § 7802; § 7803; § 7804)	Private-Sector
2005	Electric Reliability Organization NERC Standards CIP-002-3 through CIP-009-3	Electric Utilities
2006	Basel Committee on Banking Supervision High-level Principles	Banking
2009 2009 2004	Financial Industry Regulatory Authority (FINRA) FINRA Rule 4370 NYSE Rule 446 (deleted, 11/11/08) NASD Rules 3510 and 3520 (superseded)	All FINRA members.
1992 2009	Network Reliability and Interoperability Council (NRIC) Communications Security, Reliability and Interoperability Council (CSRIC)	Communications

***Executive-level management.***

The business continuity planning process requires executive-level management endorsement and commitment. Executive-level management is required because executive-level management is authorised to allocate human, financial and other resources required to support

the business continuity planning process (Doughty, 2001; Graham & Kaye, 2006; Hiles & Barnes, 1999; ISO 22301, 2012; Kildow, 2011; NFPA 1600, 2013; Paton & Violanti, 2011; Wrobel, 2009). After executive-level management endorses and commits to engage in business continuity planning, the next step in the business continuity planning process is to identify risks and hazards to the organisation.

***Risk assessment and the business impact analysis.***

A risk assessment and business impact analysis are the next steps in the business continuity planning process. A risk assessment is conducted to identify and analyse risks and hazards to the organisation. A business impact analysis evaluates the potential impact(s) that the identified risk(s) and/ or hazard(s) might cause should they materialise. Additionally, the business impact analysis identifies and quantifiably prioritises business activities that are mission critical and/or time sensitive to the organisation.

A risk assessment is comprised of two components: quantitative and qualitative analyses. Quantitatively, a risk assessment aims to gauge (1) the probability of the identified risk(s) and/ or hazard(s) occurring; and 2) an appraisal of the damage resulting from the materialisation of the risk(s) and/ or hazard(s) to the organisation. According to Savage (2002), a probability value is assigned to each risk and is then multiplied by a value representing the expected resultant loss should the risk(s) and/ or hazard(s) materialise, facilitating the ranking of “. . . events in order of risk . . .” (p. 256).

Qualitatively, the probability of a risk and/ or hazard occurring is not computed in a risk assessment. Instead, the injury and/ or damage potential represented by the risk(s) and/ or hazard(s) is assessed. Savage (2002), states that other variables may also be considered including business system threats and vulnerabilities; and deterrent, preventive, corrective, and or detection

control systems that detect systemic attacks and/or incidents. After assessing the risk in terms of occurrence probability, the cost that the risk would have to organisational operations if the risk occurred is evaluated.

A business impact analysis has several important objectives including: (a) determining the maximum amount of time that an organisation can tolerate being without its computer systems, referred to as *maximum tolerable downtime*; (b) determining the desirable amount of time needed to recover from a computer system outage, referred to as *recovery time objective*; and (c) determining the point in time that a computer system can be restored to in the event of an outage or incident, referred to as a *recovery point objective*. Conducting a business impact analysis is complex and requires the participation of individuals and departments from throughout the entire organisation. Although each organisation is unique, the business impact analysis process has elements that are common to all organisations including: (a) a hypothetical assessment of the impact to the organisation's ability to produce goods and/ or provide services if the identified risk(s) occur (Graham & Kaye, 2006; Hiles & Barnes, 1999; ISO 22301, 2012; NFPA 1600, 2013); (b) the identification of systems that are mission-critical to the organisation coupled with the establishment of recovery time objectives for those mission-critical systems (NFPA 1600, 2013); (c) an assessment of the impact(s) to business operations in the event that interruptions and/ or disruptions occur to dependent and interdependent links within supply chains and/ or stakeholders (Graham & Kaye, 2006; Hiles & Barnes, 1999; ISO 22301, 2013; NFPA, 2012); (d) an evaluation of the impact that the loss of data would have on the organisation (NFPA 1600, 2013); and (e) the establishment of a recovery point objective for the system (NFPA 1600, 2013). Thus, the efficacy of a business continuity management system and

its product – the business continuity plan – are influenced by a diligent risk assessment, a robust business impact analysis, and the quality of the data gathered.

### ***Business continuity plan.***

Information collected from the risk assessment and the business impact analysis is used to create an organisationally-unique business continuity plan tailored to the requirements of the organisation. Notwithstanding the fact that the business continuity planning process and resulting business continuity plans are unique for each organisation, business continuity plans have shared elemental components. Indeed, business continuity plan templates may be downloaded from the internet. Additionally, commercial business continuity planning software programs are available. According to Doughty (2001), common elements found in business continuity plans include: (a) a policy statement; (b) an overview of the plan; (c) detailed emergency procedures; (d) a description of the recovery organisation structure; (e) a description of recovery team roles and responsibilities; (f) detailed recovery plan procedures; and (g) contact information for mission-critical personnel and recovery resources such as equipment, repair and supply vendors.

Evolving in tandem with business continuity planning were business continuity standards.

### **Business continuity standards.**

Standards organisations throughout the world have developed and implemented business continuity planning standards. Beginning in 2003, collaboration between the British Standards Institute and the Business Continuity Institute produced the first business continuity planning standards. Subsequently, numerous other standards-issuing organisations developed their own versions of business continuity management and planning standards. The question became, whose standard should an organisation adopt and implement with so many business continuity management standards?

The International Standards Organization (ISO) recognised the need for a universal business continuity management and planning standard. Consequently, ISO 22301: (2012), titled, Societal Security—Business continuity management systems—Requirements, was published in 2012. The ISO 22301: (2012) standard delineates specific requirements for creating, implementing and managing an effective business continuity management system using the *Plan-Do-Check-Act* (PDCA) model (ISO 22301: (2012)). Compliance with the ISO 22301: (2012) standard requires the implementation and documentation of the risk assessment and business impact analysis processes adopted by the compliant organisation. The development of a business continuity strategy is another compliance requirement under the ISO 22301: (2012) standard. Provisioning resources necessary for an organisation to implement their business continuity strategies is another requirement of ISO 22301: (2012). Finally, compliance with ISO 22301: (2012) requires that methods designed to protect and mitigate an organisation’s risk exposure are incorporated into the organisation’s business continuity management system and related business continuity plan. Thus, to comply with the international business continuity management and planning standards, as set forth in ISO 22301: (2012), organisations are required to have a structure in place to address how the organisation responds to incidents that impact their operations including “warning and communication procedures” as well as the business continuity plans themselves (Bethany, 2014, p. 31).

Business continuity planning has evolved significantly since its origins in the 1970s. Best practice guidelines for business continuity management systems have evolved through numerous standardisation processes. Certain industries are now legally required to have business continuity management systems and are regulated by agencies tasked with ensuring compliance. Today, an international business continuity management system standard, ISO 22301 (2012), exists.

Although business continuity planning is an important undertaking for businesses toward continuity of operations during and/ or post-disaster, business continuity planning is neither a panacea nor a guarantee for organisational post-disaster survival. Additional risk management strategies such as insurance exist. Perhaps, one of the most undervalued, under-researched, and overlooked resources that organisations can draw upon for their post-disaster recovery efforts is *social capital*; the topic of the next section.

### **Social Capital**

Simplistically and conceptually, social capital can be described as inter-personal relationships. Despite its conceptual simplicity, a universal definition of social capital remains elusive despite numerous attempts by scholars. Pioneers in the field of social capital theory and/ or research, discussed in this review and chronologically delineated below in Figure 2.1, include: Alexis de Tocqueville; L. J. Hanifan; Jane Jacobs; Mark Granovetter; Pierre Bourdieu; James Coleman; Ronald Burt; Robert Putnam; Ross Gittel; Avis Vidal; Janine Nahapiet; Sumantra Ghoshal; Michael Woolcock; Deepa Narayan; Simon Szreter; Francis Fukuyama; Yuko Nakagawa; Rajib Shaw; and Daniel Aldrich. More than 70 years before the term *social capital* was conceived, conceptually, it had been thoroughly observed in the United States by visiting French aristocrat, politician and historian, Alexis de Tocqueville. Tocqueville wrote extensively about *association*; a phenomenon he observed during his visit to the United States in the nineteenth century.

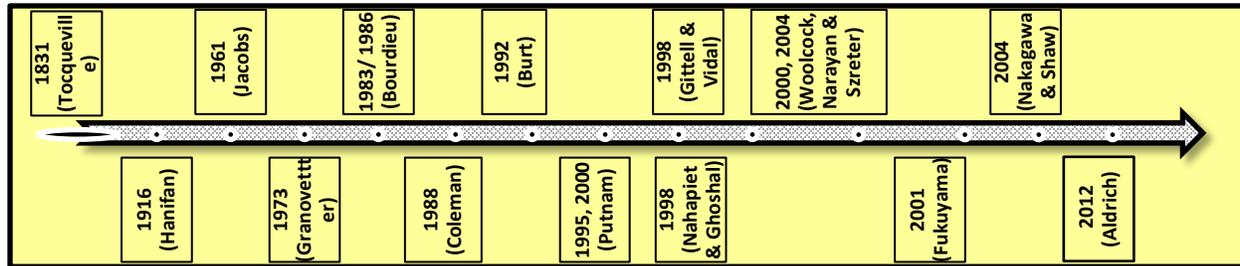


Figure 2.1. Social Capital Theory and Research Pioneers.

### Association.

Tocqueville, based upon his 1831 travels through America, published his observations on the phenomena of *association* and the benefits therefrom—referred to as social capital by later authors—in his classic work, *Democracy in America*. Commenting on the associational life of early Americans he witnessed during his visit, Tocqueville stated,

Americans of all ages, all conditions, and all dispositions, constantly form associations. They have not only commercial and manufacturing companies, in which all take part, but associations of a thousand other kinds, - religious, moral, serious, futile, general or restricted, enormous or diminutive. The Americans make associations to give entertainments, to found seminaries, to build inns, to construct churches, to diffuse books, to send missionaries to the antipodes; they found in this manner hospitals, prisons, and schools. If it be proposed to inculcate some truth, or to foster some feeling by the encouragement of a great example, they form a society (Heffner, 1956, p. 198).

Elegantly, Tocqueville described in text, the phenomenon he observed and distilled into one word, the essence of that phenomenon that he observed; a singular concept – *association*. This simple description of the phenomenon Tocqueville observed is difficult to fault. However, times have changed drastically since the time of Tocqueville. Technological advances have profoundly changed the ways that humans interact since 1831. Some authors assert that people associate far less than in the past (Putnam, 1995, 2000). Although Tocqueville’s observations and recordings of the phenomena he witnessed were astute, valid and articulate; conceptually, social capital has evolved. Thus, the conceptual definition of the phenomenon provided by Tocqueville has antiquated due to technological advances and significant changes in the ways that humans

interact. Moreover, Tocqueville makes no reference to organisational social capital.

Notwithstanding these unforeseeable shortcomings, the observations made by Tocqueville form the foundational bedrock from whence known social capital research springs forth; his contributions to this field are thusly, significant. Though conceptually defined, observed and extensively documented by Tocqueville in 1831, more than 80 years passed between when Tocqueville observed American social life and the term, *social capital*, would be coined to describe Tocqueville's concept of association, as observed operating in rural communities.

#### *Rural communities.*

The first known publication referencing *social capital* is from 1916 in an article published by The Annals of the American Academy of Political and Social Science. Describing the development and evolution of social capital in a West Virginian rural community, Hanifan (1916) suggests that social capital was used to improve the . . . “recreational, intellectual, moral, and economic conditions” of the community (p. 131). Hanifan (1916) further defined social capital as . . . “goodwill, fellowship, mutual sympathy, and social intercourse among a group of individuals and families who make up a social unit, the rural community” (p. 130). The definition of social capital offered by Hanifan (1916) adds dimension to the associative life of Americans observed and identified by Tocqueville by drilling down into the mechanics behind the creation of social capital. However, Hanifan (1916) parametrically limits social capital to component members of the rural community; ostensibly, excluding non-rural communities with his definition. Additionally, as with Tocqueville, organisational social capital was not referenced. More than 40 years passed before the term, social capital, was referenced again in the context of neighbourhood networks

*Neighbourhood networks.*

Tasked with studying city planning and urban life in the United States in the late 1950s, Jacobs (1961) did not explicitly define social capital. However, Jacobs (1961) did use the term in reference to “neighbourhood [*sic*] networks” in her commentary on city renewal planning. Jacobs (1961) asserts that “. . . underlying any float of population must be a continuity of people who have forged neighbourhood [*sic*] networks. These networks are a city’s irreplaceable social capital” (p. 138). Explicitly, Jacobs (1961) recognises the importance of social capital referring to it as “irreplaceable.” Implicitly, Jacobs (1961) application of social capital as a concept seems overly-localised to neighbourhoods at first glance. Yet, the reference made by Jacobs (1961) to social capital is neither definitive nor exclusive inasmuch that neighbourhood networks are the sole form of social capital. Ultimately, the reference made by Jacobs (1961) to social capital is overly-ambiguous to be useful. As with other social capital researchers, no reference to organisational social capital was made in Jacobs (1961) study.

Researchers continued to investigate social capital throughout the 20th century continuing into the 21st century adding to our existing body of knowledge on the topic. Numerous notable social capital researchers and theorists have added to our conceptual understanding of social capital in this regard. The remainder of this chapter critically reviews the works from more contemporary academics including Pierre Bourdieu; James Coleman; Ronald Burt; Robert Putnam; and Daniel Aldrich. Our journey begins in the early 1970s with an American sociologist that categorised interpersonal relationships, or *ties*, according to their strength.

### **Strong, weak and absent ties.**

Mark Granovetter (1973) developed his social relationship ties theory asserting that small group interpersonal relationships are the building blocks for bridges that connect small groups to larger social structures. Three categories of social *ties* were identified by Granovetter (1973) including: (1) strong; (2) weak; or (3) absent ties. The strength of a tie is defined by Granovetter (1973) as “. . . a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie” (p. 1361). Using a dyadic model to illustrate the mechanics of relational ties, Granovetter (1973) asserts that when an interpersonal relationship exists between actor A and actor B, and actor A also has a relationship with a larger set (actors C, D, and E); the stronger the tie is between actor A and actor B, the greater the chances are that actor B will also have ties to members of the larger set. Thus, the probability of actor B having a connection to individual members of the set increases, intuitively, in proportion to the strength of the tie with actor A. More simply stated, the stronger two people are connected, the more probable it is that their circle of other connections will overlap. Further, Granovetter (1973) found that strong ties results in homogeneity among connected individuals and those strong ties require larger investments of time than weak ties.

Interestingly and perhaps counterintuitively, Granovetter (1973) posits, weaker ties connect more people than strong ties through information and/ or influence diffusion by a process called, *bridging*. A bridge in this context, according to Granovetter (1973), is a singular connection between two points in a network; all bridges are weak ties. Reciprocally however, not all weak ties are bridges and there appear to be limitations related to the path length of bridges between actors and their ability to diffuse information and/ or influence.

Correlated to strong ties and weak ties are dense networks and sparse networks. The information, ideas, and connections that weak ties provide effectively expand individual networks and ostensibly opportunity through a broader network which captures more variety of information than strong ties by virtue of the inherent diversity associated with weak ties. Consequently, individual mobility—moving from one network to another—is facilitated more easily through weak ties than through strong ties. Social cohesion is correlated to weak ties because weak ties have a higher probability of linking individuals from a variety of small networks than strong ties. Conversely, strong ties are associated with densely structured homogeneous networks. Granovetter (1973) opines, “. . . strong ties breeding local cohesion, lead to overall fragmentation” (p. 1378). Social cohesion associated with weak ties has similarities to the concept of economic embeddedness.

Economic embeddedness – as viewed through a substantivist lens – was historically and theoretically associated with pre-market, non-industrial societies wherein economic activity was *embedded* within familial, political, and religious social activities sin rational economic actors. Whereas, utilitarian theories espoused in classical and neoclassical economics posited, within industrialized, market-based societies, modern man behaves economically rational inasmuch that economic decisions are influenced less by social variables and more by individual self-interest(s) that are driven by personal gain(s). Granovetter (1985) argues that both the modern man theory of predominantly gain-driven economic activity – which he refers to as *under socialized* – and the pre-industrial man theory of predominantly socially-driven economic activity, which he refers to as *over socialized*, are erroneous. Instead, Granovetter (1985) offers essentially a middle-ground wherein economic embeddedness exists at lower levels in non-market societies than theorised under substantivist ideology and at higher levels within modernized, market-based

societies than originally asserted under classical and neoclassical economic theories subscribing to idealized market concepts.

Idealized market theory suggests that within large economic marketplaces, characterized by numerous and anonymous market actors—all of whom share identical information regarding products, services, and pricing—bartering, negotiating, and other market activities related to transactions between market actors are unnecessary as are the creation and maintenance of interpersonal relationships between market actors. Accordingly, Granovetter (1985) asserts, “In classical and neoclassical economics; therefore, the fact that actors may have social relations with one another has been treated, if at all, as a frictional drag that impedes competitive markets” (p. 484). However, this notion overlooks the role of trust and issues of malfeasance in the marketplace.

Issues of economic fraud and marketplace malfeasance are not eliminated in classical or neoclassical economics. Moreover, self-interest is not the only motivator for market actors. Market actors are also opportunists. Laws, contracts, and institutional constructs such as “deferred compensation plans and mandatory retirement” have been introduced to persuade individuals to act in good faith when engaged in economic activity. Granovetter (1985) argues that such constructs are merely a substitution for trust, motivating inventive individuals constrained by such artifice to evade them (p. 489). General morality also fails to constrain economic fraud and malfeasance. However, Granovetter (1985) concluded that embeddedness within a network produces strong . . . “personal relations and structures (or ‘networks’) of such relations in generating trust and discouraging malfeasance” (p. 490).

Reputation is considered incentive for market actors to refrain from fraudulent activities and/ or economic malfeasance by some economists. However, many economists overlook the

sociology of reputation and under socialise the concept as though reputation is created, maintained, and/ or destroyed in an economic vacuum. Additionally, reputation connotes an indirect linkage between market actors. That is, the decision by one market actor to engage in economic activity with another market actor may not arise from an existing personal relationship (first-hand knowledge) but instead by recommendation from a trusted third-party market actor. Granovetter (1985, p. 490) asserts that existing relationships between market actors are more efficient than relying upon a third-party recommendation based upon reputation for four reasons:

(1) it is cheap; (2) one trusts one's own information best—it is richer, more detailed, and known to be accurate; (3) individuals with whom one has a continuing relation have an economic motivation to be trustworthy, so as not to discourage future transactions; and (4) departing from pure economic motives, continuing economic relations often become overlaid with social content that carries strong expectations of trust and abstention from opportunism.

Summarily, the argument presented by Granovetter (1985) is that economic activity is trust infused through deeply embedded social relations, or *ties*, between participant market actors. These social ties are categorised as weak, strong or absent. Strong ties are often homogeneous. Conversely, weak ties – more diverse than strong ties – connect more people and networks through a process called *bridging*. All bridges are weak ties. A disadvantage of weak ties is that trust between actors is often thin or lacking.

Much of the focus of Granovetter's (1973) social ties theory focuses on weak and strong ties. To be sure, conducting research on interpersonal and inter-organisational relationships would be more challenging if Actors were unknown to each other. In the present research, tangible, post-disaster assistance was provided to research participants from individuals and/ or organisations, in some cases, that research participants did not personally know. Granovetter (1985) posits that weak ties are more diverse than strong ties and that they connect more people and networks through the process of bridging. This research supports that assertion, in part.

However, research participants from this study also reported receiving tangible forms of post-disaster assistance from individuals and/ or organisations that would perhaps be considered; categorically, as *absent ties* under Granovetter's (1973, 1985) social ties model. Interestingly, in several cases, research participants did not have pre-existing personal or business relationships with the individuals and/ or organisations that provided them with significant, tangible post-disaster recovery assistance. The absent ties category in Granovetter's (1973, 1985) social ties theory appears to be under-represented in the literature and represents a gap in the literature.

Conceptual ambiguity related to absent ties exists because it has not been well-defined in terms of inclusion and temporality. Thus, whom to include in Granovetter's (1973, 1985) absent ties category and whom not to include are not clear. Additionally, Granovetter (1973, 1985) did not describe the transition process from the absent ties category into one of the other two categories.

Granovetter's (1973, 1985) *absent ties* category of interpersonal relationships represents a vast number of unknown individuals and/ or organisations. Thus, it is certainly the largest of the three social ties categories. Therefore, it is a potentially important and untapped resource that small businesses could leverage toward their post-disaster recovery efforts. This research contributes significantly toward closing gaps in the literature related to social capital, absent ties, and the concept of bridging social capital. The introduction of the concept, *latent social capital*, supplements Granovetter's (1973) social ties concept as it pertains to absent ties and adds dimension to Putnam's (1995), *bridging social capital* concept.

Intuitively, strong ties result in embeddedness, engendering trust between actors. However, trust is a double-edged sword that can facilitate economic activity between market actors on one hand while creating potential vulnerabilities and opening channels for fraud and/ or

impropriety on the other hand. Yet, without trust, neither interpersonal nor inter-organisational relationships would function efficiently. What is it that keeps marketplace Actors trustworthy?

**Obligations and expectations, information channels and social norms.**

American sociologist, James Coleman (1988), used the concept of social capital to fuse two academic disciplines—economics and sociology—to describe and explain social action using a modified rationalist perspective which discards . . . “individualistic premises that often accompany. . .” rational action (p. S95). Opining that both the economist and sociologist perspectives are defective in explaining social action, Coleman (1988) asserts that the . . . “actor has no ‘engine of action . . .’” under the sociologist paradigm and that the economist perspective is empirically unrealistic because the actions of people . . . “are shaped, redirected, [and] constrained by the social context” . . . which includes “norms, interpersonal trust, social networks, and social organizations” (p. S96). Thus, Coleman (1990) defines social capital by its function:

[Social capital] is not a single entity, but a variety of different entities having two characteristics in common: They all consist of some aspect of a social structure, and they facilitate certain actions of individuals who are within the structure. Like other forms of capital, social capital is productive, making possible the achievement of certain ends that would not be attainable in its absence. Like physical capital and human capital, social capital is not completely fungible, but is fungible with respect to specific activities. . . . Unlike other forms of capital, social capital inheres in the structure of relations between persons and among persons (p. 302).

Coleman (1988) views social capital as “. . . a resource for action” with three elements including “obligations and expectations, information channels, and social norms” (p. S95).

According to Coleman (1988), obligations and expectation arise when actor A does something for actor B. Actors may be individuals or organisations. Either way, an expectation of future reciprocity exists in that actor A trusts that actor B will reciprocate at some future date. Further, an obligation of future reciprocity is imputed to actor B. The more obligations of

reciprocity an actor is owed from other actors, the more social capital the actor is said to possess. However, this type of social capital is predicated upon two elements as delineated by Coleman (1988, 1990): “trustworthiness of the social environment, which means that obligations will be repaid and the actual extent of the obligations held” (p. S102; p. 306). Coleman (1988, 1990) cites the rotating credit association, wherein immigrant associations pool money from donations made during meetings into a fund for the purpose of helping its members make capital purchases to stimulate economic development within their community, to illustrate obligatory forms of social capital. Funds from the rotating credit association are typically used to buy equipment with each member, in turn, eventually receiving funds. These rotating credit associations would fail without high levels of trust. Accordingly, Coleman (1990) posits that when actor A does something for actor B, an obligation to reciprocate is created in actor B constituting . . . “a kind of insurance policy for which the premiums are paid in inexpensive currency and the benefit arrives as valuable currency (p. 310). Interestingly, reciprocal obligations do not impute as a result of money lending according to Coleman (1990) because . . . “a unit of money holds about the same interest to a person over time” (p. 309). Similarly, no reciprocal obligations issue between actors when the currency is information.

Information channels represent another element of social capital. Coleman (1990) reminds us that obtaining information, although time consuming and costly, is a fundamental pre-requisite for making informed decisions and is . . . “important in providing a basis for action” (p. 310). Information, desired by many but held by few, is disseminated from one actor to another or others through social channels developed for purposes other than information dissemination. With this form of social capital, the value is information and there are no obligatory reciprocal performance expectations. Instead, information is the currency traded

between actors. Arguably, where reciprocal obligations exist between actors resulting from performance favours versus the lending of money or information trading, the reciprocal obligatory expectations become a type of social norm among the actors.

Norms, as defined by Oxford (2002) are “a standard or pattern, esp. of social behaviour [*sic*], that is typical or expected of a group” . . . “a required standard; a level to be complied with or reached” (p. 927). Coleman (1988, 1990) asserts, effective norms can create “a powerful, but sometimes fragile, form of social capital” (p. S104, p. 310). Accordingly, Coleman (1988, 1990) offers that prescriptive norms promoting the interests of the collective over the individual are particularly important types of social capital and are “reinforced by social support, status, honor [*sic*], and other rewards . . .” (p. S104, p. 311). That said, for norms to be effective, closure of the social network is needed.

Closure within a social network occurs when all actors within a social network are able to interact with each other as illustrated in Figure 2.2 (below). In this illustration, actors A, B, and C all have reciprocal relationships with each other. Conversely, Figure 2.3 (below) represents a social network without closure because although actor A has reciprocal relationships with actors B and C, actors B and C have no relationship with each other. Closure is also an important element for the establishment of trust. This is particularly true when an actor is not within the social network but wants to derive some benefit from the network. Thus, the out-of-network actor requires an intermediary that is a member of the network to vouch for their trustworthiness. Such vouching depends on the trust the members of the social network have in the judgment of the vouching member (Coleman, 1990). Ultimately, closure is one mechanism through which social capital is created.

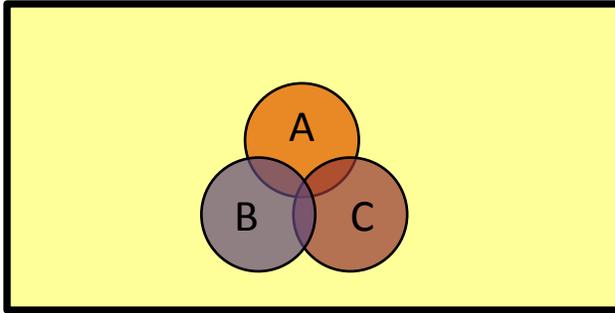


Figure 2.2. Social network with closure. Adapted under the Fair Use Doctrine from “Foundations Theory,” by J. Coleman, p. 314. Copyright 1990 by Harvard University Press.

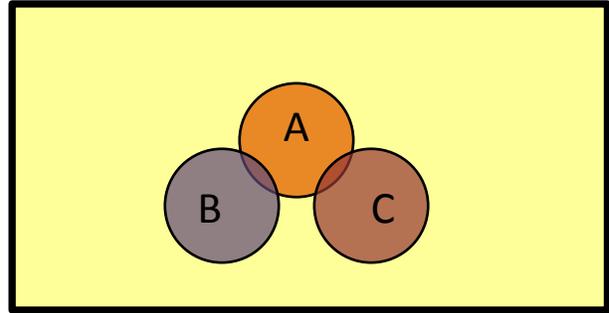


Figure 2.3. Social network without closure. Adapted under the Fair Use Doctrine from “Foundations Theory,” by J. Coleman, p. 314. Copyright 1990 by Harvard University Press.

Citing the wholesale diamond brokers in New York City, Coleman (1988, 1990) illustrates how closed social networks create social capital. The wholesale diamond brokerage in New York City is dominated by Jewish merchants. These brokers, in addition to their business interests, often intermarry, live in the same neighbourhoods, worship at the same synagogues, and send their children to the same schools. The business transactions and exchanges in this closed network are consummated by handshakes. There are no contracts, no insurance or bond requirements, and few agreements are breached by members of the network due to the strength of the social network ties and norms created through network closure. Coleman (1988) indicates that the consequences to a network member for deviation of established norms of this closed network of diamond brokers would be forfeiture of “family, religious, and community ties” (p. S99). To be sure, the consequences of deviation from the social network norms among the New York City diamond merchants in Coleman’s (1988) study illustrate the power of the social norms within the social network. The social norms of this network effectively induce compliance with its social norms while simultaneously creating network stability.

The stability of a social network can create as well as destroy social capital. According to Coleman (1990), the mobility of actors within social structures has the effect of undermining and destroying social capital if the social network lacks structure. The potential for social capital to

be dissolved or destroyed is reduced through formal organisations and the use of formalized positions within the structure. Though members of a social structure may come and go, the formalized positions which they occupy remain stable within the structure. Such structural stability created through formalized positions serves to preserve the social capital of the organisation. Another way social capital is created or destroyed is through ideology.

Coleman (1990) cites religion as an example of how ideology can create social capital in that ideology imposes a duty for the subscriber “to act in the interests of something or someone other than [self]” (p. 320). Ideology creates a common theme around which its adherents rally and interact. Thus, the ideology itself is the mechanism which creates the closure of the network and associated norms.

A research study on high school dropouts revealed that students that attended Catholic private schools had a significantly lower dropout rate than students that attended public and other private schools. Coleman (1988, 1990) attributes this phenomenon not solely to religion—in this case Catholicism—but to the strong network ties linking education, family, and the congregation. However, ideology does not always create social capital. Indeed, ideologies can limit social capital creation due to closed network homogeneity. Sometimes ideologically-based social capital manifests horrifically as evidenced in cases such as the 1978 Peoples Temple Agricultural Project (aka Jonestown), ran by reverend Jim Jones in French Guyana wherein more than 900 people were poisoned with cyanide by their ideological leader within a fully self-sufficient commune. Coleman (1990) uses the “ideology of self-sufficiency” and individualism as examples of how ideology can work against the creation of social capital (p. 321). Self-sufficiency is an attribute frequently found among affluent members of society.

Affluence, according to Coleman (1990) can render people less reliant upon other people for their needs. In other words, affluence makes people more self-sufficient thereby diminishing their social capital. Inversely, individuals that rely upon official assistance, such as that provided by government agencies also experience reduced social capital. Instead of seeking help from one another during times of need, which would effectively grow social capital, the government provides the support instead, thereby inhibiting the growth of social capital, and; over time, resulting in its depreciation through attrition. Accordingly, Coleman (1990) asserts that “Social relationships die out if not maintained; expectations and obligations wither over time; and norms depend on regular communication” (p. 321). A different perspective is that social capital is predominantly leveraged and enjoyed by the socially elite.

**Social capital: aggregated resources of the networked elite.**

Influenced by Marxist ideology, French anthropologist, sociologist, and philosopher, Pierre Bourdieu, believed that capital, in its many forms, are determinants of societal structure. Bourdieu identified four dominant species of capital: symbolic, economic, cultural, and social. Further, Bourdieu asserted, all forms of capital have at their root, economic capital inasmuch that all capital constructs may potentially convert into economic capital, notwithstanding the time investment required for capital to accrue. Regarding social capital, Bourdieu (1986) stated, “. . . the network of relationships is the product of investment strategies, individual or collective, consciously or unconsciously aimed at establishing or reproducing social relationships that are directly usable in the short or long term . . .” (p. 249). Thus the definition of social capital adopted by Bourdieu (1986) is “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintances and recognition . . .” (p. 248).

Bourdieu (1986) had a limited concept of social capital asserting that social capital, as with other forms of capital, is predominantly the domain of the haute bourgeoisie adding “. . . the possessors of an inherited social capital, symbolized by a great name, are able to transform all circumstantial relationships into lasting connections . . . because they are well known, are worthy of being known” (p. 250). Evidence supporting conclusions made by Bourdieu (1986) regarding inherited social capital enjoyed by social elites is prolific in modern society. Consider well-known celebrity and/ or political family surnames such as Barrymore, Kennedy, and Clinton. Children born into these families are born with not only a well-known surname but also the inherited social capital associated with their surnames. Whereas, researchers such as Coleman (1988/ 1990) identify elemental components of social capital including obligations and expectations, information channels, and social norms; another scholar, builds upon the weak ties theory introduced by Granovetter (1973) by focusing on the causal agent(s) correlated to the diffusion of diverse information across weakly-tied bridges, that he refers to as *structural holes*.

### **Structural holes.**

According to Granovetter’s (1973) weak ties theory, people tend to associate with others possessing similar traits or beliefs resulting in social homogeneity within groups creating what Burt (1992) refers to as, *contact redundancy*. Consider homogenous clusters of people wherein relationships tend to overlap. That is, members from one group have friends belonging to other groups creating a dense network of friends and associates through the strong ties between the respective groups and their respective members. Social network density limits the amount of information available to members of homogenous groups because they all have the same information at roughly the same time thereby reducing the amount of overall information diversity available to the groups and their members. Conversely, with weak ties such as those

between heterogeneous individuals and/ or groups, referred to by Burt (1992) as, *non-redundant contacts*, the result is the diffusion of more diverse information. Consequently, weak ties result in faster access to information and opportunity referrals from the expanded network.

Expanding Granovetter's (1973) weak ties theory, Burt (1992) developed his *structural holes theory* positing, weak ties as not the cause of broader and more diverse information diffusion but its correlate. Instead, causative agents are *structural holes* between individuals, groups, and/ or networks that weak ties serve to bridge. Moreover, each side of a weakly-tied bridge has a non-redundant individual, group, or network acting to control or broker information that traverses the bridge for entrepreneurial exploitation through various strategies. Accordingly, Burt (1992, 1997) defines structural holes as the chasms or gaps between actors whose social circles do not overlap (non-redundancy). Differentiating the weak ties theory from the structural holes theory, Burt (1992) argues, weak ties are “. . . about the strength of relationships that span the chasm between two social clusters” whereas; the structural holes theory “. . . is about the chasm spanned” that produces “. . . information benefits when it is a bridge over a structural hole” (p. 28).

Under Burt's (1992) theory, in the present research, the seismic events created structural holes between individuals, organisations and other networks that weak ties can bridge. The unknown individuals and/ or organisations that provided post-disaster assistance to some research participants in the current study could not be accounted for unless they were categorised as weak or absent ties. However, categorising unknown individuals and/ or organisations as weak ties was inaccurate because the very essence of unknown individuals and/ or organisations is that pre-existing relationships do not exist. How do these individuals and/ or organisations fit

into the bonding, bridging, and linking social capital model? What classification of social capital should angel investors, anonymous philanthropists or strangers belong?

Two types of structural holes exist according to Burt (1992): primary and secondary. Primary structural holes exist between the direct contacts of actors; whereas, secondary structural holes are found between the indirect contacts of actors. These distinctions are important in ascribing depth to structural holes. Structural hole depth is measured by cohesion and equivalence; its indicators. Cohesion refers to the level of emotional closeness existing between actors. Equivalence refers to actors with close ties within the same actor clusters without an emotional component.

Burt (1992) found that where cohesion is strong between actors and the tie between actor clusters is missing, a shallow structural hole is found. Similarly, where no cohesion exists between actors and no connection between actor clusters exists, a structural hole exists. Conversely, where cohesion between actors is strong and ties between actor clusters is also strong, no hole is found. This lack of a structural hole created by contact redundancy creates network constraint and reduces access to information and the benefits derived therefrom. Finally, where cohesion between actors is completely lacking but strong ties between actor clusters are evident, a deep structural hole exists.

Deep structural holes are exploitable and represent entrepreneurial opportunity. Actors lacking structural holes within relationships on their side of the hole coupled with the existence of structural holes on the far side of the hole enjoy structural autonomy according to Burt (1992) and are “. . . best positioned for the information and control benefits that a network can provide” (p. 45). Simply stated, this arrangement enables the actor to act as a dominant broker of the structural hole thereby limiting and controlling information on the broker-controlled side

(redundant contacts) of the structural hole while simultaneously diversifying access to information networks beyond the redundant, broker-controlled network (non-redundant side). The result is structural autonomy and an increased effective size of the broker network. Stated differently, the more constrained the network (network density), the lower the structural autonomy and transitively, the less social capital and opportunity available to the actor, whether the actor is an individual or an organisation.

Burt (1992) defines social capital as “. . . friends, colleagues, and more general contacts through whom [a person] receive[s] opportunities to use [their] financial and human capital” (p.9). Drilling deeper, Burt (1992, 1997, and 2000) conceptually correlates social capital with the ability to broker and advantageously control information flows between structural holes comprised of non-redundant individuals and/ or groups. The ability to insert and assume the broker function of connecting disorganized individuals, groups, and/ or networks is directly related to the amount of social capital possessed by the individual broker, aggregated to the group, network, and/ or organisation. Further, Burt (1992) asserts that social capital is not something owned by only one party; it is “. . . owned jointly by the parties to the relationship” dissolving when a party withdraws from the relationship (p. 9). The ability to exploit network structural holes vis-à-vis leveraging social capital has been found to result in quantifiable benefits

Studying attributes of manager success as measured by promotion speed, Burt (1992, 1997) found that with few exceptions (other than entry-level male managers and female managers), managers that were able to exploit structural holes promoted faster and made more money than those managers that were unable to or had fewer structural holes to exploit. This finding supports the network constraint theory discussed earlier. Moreover, mechanisms used by

brokers to bridge network structural holes toward opportunity and benefit work at both micro and macro levels aggregating from lower levels to the higher order; from the individual to the organisation. Individuals able to bridge structural holes between disparate networks are considered to have higher levels of social capital than individuals that cannot.

Thus, for Burt (2000), social capital is not a thing, per se, but an amalgamation of resources derived from social structure which effectively place individuals or groups in advantageous positions “. . . because of their location [within] the social structure” (p. 347). These advantageous positions, located along structural holes found between or within non-redundant networks, are manipulated by brokers with high levels of social capital. Brokers with high levels of social capital are able to beneficially bridge structural hole chasms existing between or within their networks, consequently, they have speedier access to a broader range of information and more network referrals for opportunity than their counterparts (whether individual or organisational) operating with constrained networks; often a consequence of network membership redundancy and/ or homogeneity. Individuals with less social capital simply have fewer, shallower, or no structural holes between or within their networks to manipulate.

When applied in a disaster context, Burt’s network structural holes theory may have less applicability. For example, the exploitation and/ or manipulation of resources including information during disasters for profit is not palatable to most people. To be sure, price gouging and other forms of profiteering from disasters are considered abhorrent and are shunned by most societies and civilisations. In some cases, such behaviour is prohibited by law. For example, in California, section 396 of the Penal Code makes it unlawful to increase the prices of *essential consumer goods and services* by more than 10 percent for a period of 30 days after an official

disaster declaration has been made by local, state or national government authorities (California Penal Code , 1872). Thus, the incentive to act as *broker* in alignment with the structural holes theory may be lacking in a disaster context.

However, exploitation of resources and/ or information for personal gain; in other words, greed, is a powerful incentive that may induce some individuals and/ or organisations to assume the role of a structural hole broker in a disaster context. Assuming that a broker in the structural holes model is a rational market actor in pursuit of reducing business transaction costs, then assumption of a broker role in a post-disaster context is problematic, conceptually. First, as stated earlier, incentive is lacking. Legal restrictions and social stigma are clearly disincentives. Yet, other disincentives exist.

A surviving organisation assuming the role of broker under the structural holes model in a post-disaster context necessitates energy and attention. This draws energy and attention away from the primary business function of the brokering organisation requiring either additional employees to administer the brokering or less energy and attention allocated to the primary business function. Either way, transaction costs increase. Conversely, if the survivability of organisation A that was affected by a disaster is dependent upon organisation B to act as its broker for assistance, a strong disincentive potentially exists for organisation B to provide assistance because of the potential for organisation B to increase its market share if and when competing organisations fail. Therefore, application of the network structural holes model in this study of New Zealand small-to-medium-sized enterprises in a post-disaster context was conceptually misaligned for this research. Moreover, identifying *brokers* would be implausible because it would require an admission, acknowledgement or other form of disclosure regarding the exploitation and/ or manipulation of resources and/ or information by one or more research

participants for their organisational and/ or personal gain. The implausibility of successfully acting as a broker in the network structural holes model in a post-disaster environment is likely magnified when applied to small communities recovering from disasters where information disseminates quickly. Thus, the bonding, bridging, linking social capital model was adopted for this study.

The network structural holes theory offered by Burt (1992, 1997, and 2000) is an expansion of Granovetter's (1973) weak ties theory. Nevertheless, subtle differences in causality between the two theories distinguish them from each other. Granovetter (1973) argues that the *strength* of a tie to an actor on the *distal side* of a network bridge between actors is a causal factor in whether or not the distal actor will act as a bridge between the actors toward network diversification. He further states that *weak* ties represent prospective sources for new information that could be advantageous to the actor on the proximal side of the weakly tied bridge. Whereas, Granovetter (1973) asserts tie strength is the causal factor in access to novel information, Burt (1992,1997, 2000) argues that it is the actor or *broker* that controls the gaps or *holes* between disparate network structures that controls and benefits from access to new information; not tie strength.

Since Tocqueville's (1831) observations of American life in the 1800s, social capital has grown conceptually. Extant social capital research has predominantly focused on a universal definition of social capital; its operational mechanics; measurement methods; social capital typologies; and/ or benefits/detriments. Although conceptually, social capital continues to grow, one prominent researcher asserts that social capital is in a state of decline.

### **Declining social capital; bridging social capital.**

Putnam (2000) describes the devolution of social capital in the United States from a society characterized by high levels of social capital to one with low levels of social capital. Putnam (2000) defines social capital as . . . “connections among individuals - social networks, and the norms of reciprocity and trustworthiness that arise from them” (p. 19). The widely-used term describing a type of social capital called “bridging” social capital was coined by Putnam (1995) to refer to a social condition wherein “norms, networks, and trust link substantial sectors of the community and span underlying social cleavages” (p. 665). In other words, *bridging social capital* connects disparate individuals, groups and/ or networks. Using data from a variety of surveys, Putnam (2000) traces levels of civic involvement among Americans from the late nineteenth century to the latter part of the twentieth century using a variety of proxy variables for the purpose of identifying when and why civic involvement declined in America. However, for Putnam (2000) the most significant variable of social capital is trust.

Putnam (1995) compiles and analyses publicly available surveys undertaken in the United States between 1870 and 1969 that measured; for example, voter turnout; daily newspaper readership levels; social trust levels between individuals; and membership in or association with social groups or organisations. These metrics serve as proxy variables for social capital measurement. The declination of social capital in the United States between 1930 and 1935 is perceived as an outlier in the data; presumably, an effect of the Great Depression. Nevertheless, data compiled and analysed by Putnam (1995, 2000) highlight marked declinations in community engagement with each successive generation born after 1930.

Prior to the decline in community engagement correlated to the Great Depression in the United States, Americans were highly engaged in community life. Putnam (2000) uses numerous

proxy variables to assess community engagement levels of Americans including daily newspaper readership; weekly church attendance; petition signing; union membership; public meeting attendance; correspondence to members of Congress; participation in local organisations as an Officer or committee member; correspondence to newspapers; working for political parties; running for or holding public office; correspondence to editors; writing magazine articles; giving speeches; attending rallies; public meeting attendance; and/ or good-government organisation membership.

Roughly between 1973 and 1994 and within every variable measured, declinations in civic participation are evident. Additionally, several trends are identified: people aged 18-29 had the most significant disengagement in community participation followed by those aged 30-44 and then by citizens aged 45-59. The least disengaged age group were people over 60 years old.

Though the Great Depression seems to have caused disengagement in community participation among many Americans during the 1930s, civic engagement bounced back in the 1940s. This rebound is correlated to the breakout of World War II and high levels of patriotic fervour associated with the war effort. Putnam (2000) states that for two decades following 1945, membership rolls exploded to their highest historical levels in thirty-two national, chapter-based organisations such as Elks lodges; Moose lodges; Masonic chapters; the League of Women Voters; and the Knights of Columbus, reaching a . . . “plateau in 1957, peak[ing] in the early 1960s, and began the period of sustained decline by 1969” (p. 55). The obvious question is what caused Americans to disengage from community life?

Putnam (2000) provides numerous possible explanations for the disengagement by Americans from community participation beginning in the last third of the 20<sup>th</sup> century including:

(1) Busyness and time pressure; (2) economic [hardship]; (3) the [entrance] of women into the paid labor [*sic*] force and the stresses of two-career families; (4) residential mobility; (5) suburbanization and sprawl; (6) television, the electronic revolution, and other technological changes; (7) changes in the structure and scale of the American economy, such as the rise of chain stores, branch firms, and the service sector, or globalization; (8) disruption of marriage and family ties; (9) growth of the welfare state; (10) the civil rights revolution; (11) the sixties (most of which happened in the seventies), including Vietnam, Watergate . . . disillusion with public life, and the cultural revolt against authority (sex, drugs, and so on) (p. 187).

However, the vast majority of these speculative explanations are not supported empirically. The data suggests that between the years 1965-2000, work related busyness and time constraints account for 10 percent of community disengagement; suburbanization and sprawl for another 10 percent; television 25 percent; generational change 50 percent; and five percent to some other unknown variable.

Generational change refers to the decline in civic participation by each successive generation born after 1940. Americans born into generations prior to 1930, particularly the generation born between 1910 and 1940, simply participated more in civic life within their communities than generations of people born after 1940. They were also far more trusting of others than people born after 1940 were. Again, the question is what caused the decline in civic participation by Americans? And, what caused Americans born after 1940 to be less trusting of other people than previous American generations had been? What role did broadcast technology play in these changes?

The television variable is compartmentalized into two components. The first television variable sub-category referred to by Putnam (2000) as, the “TV generation,” accounts for an estimated 10-15 percent of the combined television variable and refers to the combined effect of television viewership and generational change. In other words, successive generations watched steadily more television than their predecessors. However, members of the generation born prior

to 1940 also began spending more of their spare time watching television such that they also experienced a decline in community engagement.

The second sub-category of the television variable is associated with generations born after 1940. These generations watched increasingly more television in their spare time with each successive generation. Putnam (1995) asserts that, “By 1995, viewing per TV household was more than 50% higher than it had been in the 1950s” (p. 677).

The advent, arrival, and ubiquity of broadcast television fits nicely into the timeline as a likely and probable factor associated with community disengagement in the United States. Broadcast television in the United States proliferated after the end of World War II as did the production of television receivers. Prior to the late 1940s and early 1950s, few Americans had ever seen a television and even fewer had viewed a television broadcast; largely experimental during that period. However, the rapid and unprecedented adoption of the new broadcast television technology made it ubiquitous in American society. According to Putnam (1995), roughly 10 percent of the homes in America had television sets in 1950; however, in less than ten years, 90 percent of American homes had television sets. Consequently, the amount of time Americans spent watching television increased continuously ever since broadcast television technology was widely diffused. According to Putnam (1995), “by 1995 [television viewership] was 50 percent higher than it had been in the 1950s” with Americans watching roughly “four hours per day” on average (p. 677). To be sure, correlations between broadcast television, generational change, and community disengagement in the United States; all beginning in roughly the early 1950s, are difficult patterns to overlook. Mechanisms by which television viewing effects civic participation, as asserted in Putnam (1995) include time displacement, the influence that television has on viewers and the effects that television has on children.

Clearly, watching television takes time and despite findings that other forms of media act as positive correlates to social engagement, watching television is apparently the exception to the rule. Whereas, people that read newspapers or listen to classical music are more likely to interact with others outside of the home, television viewers are less engaged in activities outside of their homes. Accordingly, Putnam (2000) asserts “. . . dependence of television for entertainment is not merely a significant predictor of civic disengagement. It is the single most consistent predictor that I have discovered” (p. 231).

Another way that watching television influences social capital is through perception. Studies show that people that view significant amounts of television have a world view that is different than people that watch less television. Heavy television viewers see the world as mean, cruel, and crime-filled. They tend to be sceptical about people’s motives and even pessimistic about human beings; generally. Thus, perceptions of social realms that we, as humans navigate in our day-to-day interactions with others can become negatively altered, reshaping our world view and of humanity, writ large. Children are especially prone to these altered perceptions of reality reshaped through television broadcasts.

Children spend an average of 40 hours per week watching television according to Putnam (1995). Citing a number of research conclusions, Putnam (1995) advises that the adverse effects of heavy television viewing among children includes an increase in aggressive behaviour, scholastic achievement reduction, and a statistical . . . “[association] with ‘psychological malfunctioning’” (p. 680). Putnam (2000) adds . . . “the greater the youthful exposure of any cohort of individuals to television, the greater their degree of disengagement today” . . . with habitual television watching “. . . associated with lesser civic engagement” (p. 235).

The combined impact of generational change and television viewing accounts for approximately 75 percent of the decline in civic participation in the United States since the late 1940s. When we consider that embedded within generational change are successive generations that watched increasingly more television; television viewing emerges, culpably, as one potentially significant cause to the decline in social capital in the United States since the late 1940s. Noteworthy is that declining social capital has not been contained within the United States. Interestingly, in 1973, Canadian researchers conducted an experiment measuring the effects television viewing had on the community participation levels of the citizens in a small town where broadcast television had never been received due to the remoteness of the town. Researchers found that television viewing affects participation in community activities of not only individuals that are peripheral to community activities but also of those individuals centrally involved in the activities of their community (Williams, 1986). Additionally, residents involved in the study were found to be more actively involved in community activities when the television variable was absent. Putnam (2000) prophetically quips, reversing the trend of civic disengagement “would be eased by a palpable national crisis, like war or depression or natural disaster . . .” (p. 402).

The September 11, 2001 attacks on the United States galvanized people to reconnect and re-engage with their communities. Data collected by Sander and Putnam (2010) after the events of September 11, 2001 show a marked increased interest in politics among college freshmen. This increased trend is also seen among high school seniors. In fact, though short-lived, voter turnout among Americans under age 29 grew three times faster than voter turnout among people over 30 between the years 2000-2008 (Sander & Putnam, 2010). Civic re-engagement was mostly found among young white people from the upper middle-class social strata. Hence, civic

re-engagement by people from higher socio-economic orders is occurring at higher levels than with people from lower socio-economic orders.

Putnam (1995) convincingly shows that a decline in social capital occurred in the United States over the past 70 years. Describing numerous possible causalities of the phenomenon, Putnam (1995) argues that with the advent of broadcast television in the early fifties, people became continuously less engaged in community and civic activities as television sets became ubiquitous and broadcast television technology continued to develop. With the Internet, people now have the ability to purchase groceries, restaurant food, and/ or various products and/ or services and have them delivered to almost anywhere from almost anywhere. Furthermore, contemporary communication technologies including email, text messages, instant messaging, mobile telephones, and social media platforms; as examples, allow people to interact without ever having to see one another.

Summarily, Putnam (2000) asserts that human social environs have changed drastically since the advent of broadcast television in the 1950s. To be sure, information technology and the Internet have furthered continuing changes in human social interactions, communications, and norms. Putnam (2000) concludes that social capital has steadily declined in the United States as measured by variables such as participation in community activities, association with formalised groups, and levels of social trust; among other factors. The data shows that with each successive generation born after 1930 in the United States and within each variable measured (except voter turnout), levels have been declining resulting in what Putnam (2000) asserts are declining levels of social capital within the United States.

The tedious and time consuming research conducted by Putnam (1995, 2000) provides quantifiable data often missing in social capital research due to its qualitative nature. Quantifying

social capital is difficult, to be sure. Although Putnam (2000) does not measure social capital formulaically, he does identify quantifiable proxy variables representing the manifestation of social capital that he uses toward theoretical development. Despite numerous contributions made by Putnam (1995, 2000) toward advancing our collective knowledge related to social capital theory, including introducing the concept of bridging social capital, limitations exist in applying findings from Putnam (1995, 2000) to this research.

The first limitation in applying findings from Putnam (2000) to the research undertaken herein is the research focus in Putnam (1995, 2000) itself: the cause(s) of declining social capital in the United States. Notwithstanding the fine and contributory work of Putnam (1995, 2000) toward development of social capital theory, the findings from his research does not help answer the central research question of this thesis: how is social capital leveraged by small businesses toward their post-disaster recovery efforts? Perhaps, the phenomenon of declining individual participation and membership levels within formalised groups and/ or associations is occurring on a global scale and has in some way impacted business organisations recovering from disasters, including those participating in this research. Likewise, perhaps individual social capital, the focus in Putnam (2000), implicitly aggregates to the organisation becoming; ostensibly, the social capital of the organisation. However, this was not expressed in Putnam (1995, 2000).

A second limitation in Putnam (1995, 2000) is contextual in that the study was not conducted in a natural disaster context. However, Putnam (2000) does review social capital in seven western countries other than the United States. Within some of those seven countries, Putnam (2000) reveals that human-induced political disasters; for example, the dictatorial rule of

Franco in Spain and of Hitler in Germany significantly shifted the social capital levels in those societies as a result of the political disasters that occurred there.

Findings from Putnam (1995, 2000) are limited to the extent that they and/ or the theory that social capital is declining is not the focus of this research. Notwithstanding, the theory that social capital is declining may have relevance should data gleaned from this study reveal differences in the post-disaster recovery efficacy between organisations with high levels of social capital versus those with lower levels of social capital. Contributions to social capital theory made by Putnam and the researchers reviewed thus far constitute, essentially, the bedrock upon which social capital theory is built. The deeply grooved tracks cut by pioneer social capital researchers introduced and reviewed thus far provide the conceptual and theoretical trails for subsequent researchers to follow and build upon including efforts to clarify and classify social capital according to its typological attributes. *Bonding social capital* is one such classification.

### **Bonding social capital.**

Tasked with intervening to deepen and broaden service capacities of local and national community development corporations serving the needs of lower socio-economic communities, Gittell and Vidal (1998) sought ways to build and use social capital strategically toward community development. The authors turned to social capital theory to assist them with their task. Adopting the term, bridging social capital, introduced in Putnam (1995), Gittell and Vidal (1998) define bridging social capital as “the type [of social capital] that brings together people or groups who previously did not know each other” (p. 15). Expanding upon Putnam’s (1995) initial typological classification of bridging social capital, Gittell and Vidal (1998) introduce *bonding social capital* as another social capital typology, defined as “the type [of social capital] that brings closer together people who already know each other” (p. 15). Gittell and Vidal (1998)

chronicle their strategic use of social capital toward addressing the needs of socioeconomically, disadvantaged communities. Can organisations use social capital to give them competitive advantages over other organisations? Two British researchers provide some insights on this question.

### **Structural, relational and cognitive dimensions of social capital.**

Building upon previous social capital research, Nahapiet and Ghoshal (1998), theorise that higher levels of social capital lead to higher levels of organisational intellectual capital thereby providing such organisations with advantages over other organisations. Moreover, Nahapiet and Ghoshal (1998) assert that this feedback loop is reciprocal in that higher intellectual capital can also produce higher levels of social capital. Adopting attributes of social capital defined by Putnam (1995), Bourdieu (1986) and Burt (1992), Nahapiet and Ghoshal (1998) define social capital as:

The sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network (p. 243).

Striving to fill a research gap identified in Putnam (1995), Nahapiet and Ghoshal (1998) sought to clarify dimensions of social capital pertinent to the creation of intellectual capital. They define intellectual capital as “the knowledge and knowing capability of a social collectivity, such as an organization, intellectual community, or professional practice” (p. 245). Using three clusters for the purpose of analysing social capital, Nahapiet and Ghoshal (1998) conceptualised three inter-related dimensions of social capital: *structural, relational and cognitive*.

The structural dimension of social capital refers to overall social network patterns between parties. That is, how we reach the parties that we do. Faceted with several important variables, the structural dimension of social capital considers such factors as whether or not

network ties exist between parties. Another consideration under the structural dimension is the configuration and/ or morphology of the social network. Toward identifying network configuration and/ or morphology, the density; connectivity; hierarchy; and appropriability of the organisation, referring to the ability to transfer social capital from one social environment to another, are measured.

The relational dimension of social capital refers to inter-personal relationships individuals have with one another cultivated through interactions over a period of time. These are the friendships and kinships we have with other people. Key attributes of the relational dimension cited by Nahapiet and Ghoshal (1998), are “trust and trustworthiness . . .; norms and sanctions . . .; obligations and expectations . . .; and identity and identification . . .” (p. 244).

Lastly, the cognitive dimension of social capital refers to the presence of a shared system of codified meaning among parties. Ultimately, language, codes and shared stories comprise the cognitive dimension of social capital. Nahapiet and Ghoshal (1998) poignantly assert that social capital is not the exclusive resource of one party; it is jointly owned and may be rescinded by either party. Furthermore, social capital is a resource commodity not easily used as currency beyond the parties in possession of the social capital.

That said, Nahapiet and Ghoshal (1998) argue that organisations with high levels of social capital are better positioned to develop intellectual capital vis-à-vis the facilitation of information and knowledge exchange and resource combination. Indeed, the main premise in Nahapiet and Ghoshal (1998) is that social capital “facilitates the creation of new intellectual capital” (and possibly reciprocally) through a process of information/knowledge exchange and resource combination giving organised groups, or firms, advantages over “other institutional arrangements, such as markets, in creating and sharing intellectual capital” (p. 242). The

assertion presented by Nahapiet and Ghoshal (1998) is that economic performance differences between firms may result from “differences in their ability to create and exploit social capital” (p. 260). This assertion may be particularly resonant for organisations recovering from disasters.

Nahapiet and Ghoshal (1998) contributed toward social capital theory development in two dominant ways. First, they conceptualised and developed a system for compartmentalising social capital dimension under three categories: *structural, relational and cognitive*. Secondly, by framing the concept of social capital to the organisation, or firm, they have certainly underscored the importance of social capital in terms of market advantages but they have also linked the often intangible concept of social capital to the tangibility of intellectual capital creation thereby providing social capital with, potentially, quantifiable value to an organisation.

Universally defining social capital has been problematic. More challenging yet is the quantification of social capital. Through the use of proxy variables, researchers have quantified social capital. This method of using proxy variables to measure social capital has produced valuable findings. However, proxy variables are not precise. Hence, we can never be certain as to the accuracy or generalisability of such findings. Nevertheless, the proxy method is widely accepted as a viable method for measuring social capital and has been instrumental in furthering the development of social capital theory.

Much research has been conducted on the topic of social capital. However, a system for categorically organising the vast amount of social capital research conducted was missing. Three researchers, aiming to bridge cleavages between academicians, practitioners and policymakers, identified and compartmentalised four distinct social capital research perspectives, or *views*.

### **Communitarian, networks, institutional, and synergy perspectives.**

Endeavouring to identify what constitutes social capital and how it influences economic development, Woolcock and Narayan (2000) acknowledge the well-known and founded aphorism, *it's not what you know, it's whom you know* as the summing element undergirding social capital theory. Implicitly, when conceptualising social capital it includes family members and friends because they are closest to us. People call upon those that are closest to them during crises, simply for companionship, and/ or as a lever toward some other objective(s).

Astutely, Woolcock and Narayan (2000) recognise costs as well as benefits associated with social capital; adding, some social connections are more liability than asset. Additionally, Woolcock and Narayan (2000), with respect to social capital and its status as an asset that may be called upon; assert, “What is true for individuals . . . also holds for groups” (p. 226).

Ostensibly, *groups* in this context include businesses. A primary objective of the authors was to identify and trace extant research related to social capital and economic development.

Recognising the inherent duality of social capital inasmuch that social capital may be leveraged and/ or exploited in both positive and negative ways, Woolcock and Narayan (2000) elect to focus on “sources, rather than the consequences” in their definition of social capital (p. 226). Thus, social capital is defined in Woolcock and Narayan (2000) as “the norms and networks that enable people to act collectively” (p. 226). However, the most notable contribution toward advancing social capital research and theory by Woolcock and Narayan (2000) is the system developed to categorise studies related to social capital and economic development under four distinct research perspectives.

The first perspective or *view* is the *communitarian view*. Similar to Tocqueville (1835), associational life is equated with social capital under this view. Essentially, a communitarian

perception of social capital ascribes absolute positivity to social capital. That is, there are no negative aspects, consequences or ramifications of social capital, a resource always beneficial to the overall welfare of a community (Woolcock & Narayan, (2000). However, this perception overlooks the possibility that social capital may have a dark side as evidenced by criminal groups with high levels of social capital (albeit often solely between members and associates of their groups) such as street gangs, drug cartels, and organised crime syndicates. Moreover, Woolcock and Narayan (2000) assert that the communitarian view assumes community homogeneity and that benefits extend to all community members. However, we know that discrimination, in all of its forms, exists as an unfortunate human condition.

The second research perspective related to social capital and economic development is the *networks view*. Woolcock and Narayan (2000) state that “two key propositions” characterise the networks view (p. 231). The first proposition is that there are two sides of social capital; it is Janus-faced. Thus, Woolcock and Narayan (2000) acknowledge the inherent duality of social capital asserting that, “Social capital can be used to promote or to undermine the public good” (p. 243). The authors identify elements of the networks view that include the acknowledgement of positive and negative aspects of social capital; recognition of the importance of both vertical and horizontal connections that bring people together; and appreciation for the intra and inter-organisational relationships that exist such as those found in “community groups and firms” (p. 230). Drawing on Granovetter’s (1973) weak ties theory, Woolcock and Narayan (2000) identify a third important networks view element emphasising the importance of “weak intercommunity ties” and assert that “strong horizontal ties can become a basis for the pursuit of narrow sectarian interests” (p. 230).

The *institutional view* is the third perspective identified by the authors. This perspective of social capital and its relationship to economic development posits that, the “political, legal, and institutional environment” are the determinants of vital “community networks and civil society” (p. 234). Stated differently, whereas social capital is an independent variable under communitarian and network categorical perspectives, the institutional perspective envisions social capital as a variable dependent upon its institutional environment. Thus, the institutional view of studies related to social capital and economic development focuses on relationships between the institutionalised political and legal structure of a state and the society that it has authority over. The macroeconomic view of social capital research characterised by the institutional view is conceded by Woolcock and Narayan (2000) as being its weakness because it lacks a “microeconomic component” (p. 235).

The fourth and final research view categorised in Woolcock and Narayan (2000) concerning social capital and economic development is the *synergy view*. The main distinguishing characteristic of the synergy view is its synthesis of the networks and institutional perspectives on social capital research. The synergy view is favoured by Woolcock and Narayan (2000) as the most promising approach for researching social capital and economic development toward shaping public policy. Opining that [economic] development occurs when goals common to state, corporate and civil sectors of society are pursued through “common forums,” Woolcock and Narayan (2000) add, “Social capital has a role as a mediating variable . . . shaped by public and private institutions” (p. 238).

Further refining the widely recognised bonding, bridging, and linking typology framework of social capital, Szreter and Woolcock (2004) clarify definitions of bonding, bridging, and linking social capital. Thus, *bonding* social capital is defined as,

“Trusting and co-operative relations between members of a network who see themselves as being similar, in terms of their shared social identity” (pp. 654-655). *Bridging* social capital “comprises relations of respect and mutuality between people who know that they are not alike in some socio-demographic (or social identity) sense (differing by age, ethnic group, class, etc.)” (p.655); and *linking social capital* is defined as “norms of respect and networks of trusting relationships between people who are interacting across explicit, formal or institutionalized power or authority gradients in society” (p. 655).

From the three types of social capital, linking social capital is especially important toward improving the welfare of poor communities because it connects less advantaged communities to political, legal, and financial institutions thereby opening access to resources otherwise less available or unavailable to them (Szreter & Woolcock , 2004). An agreeable universal definition of social capital among scholars has proved elusive. Similarly, scholars are divided on many other aspects of social capital, including sources of social capital.

### **Religion, tradition and shared historical experience**

According to Fukuyama (2001), social capital is “an instantiated informal norm that promotes co-operation between two or more individuals.” Further, Fukuyama (2001) asserts that, social capital indicators such as “trust, networks, [and] civil society” are “epiphenomenal, arising as a result of social capital but not constituting social capital itself” (p. 7). Drilling deeper, Fukuyama (2001) deduces that cultural norms, the building blocks of social capital, are sourced from “religion, tradition, [and] shared historical experience” (p. 7). Fukuyama (2001) concludes that most variables responsible for creating social capital are beyond government control and thus cannot be replicated by government. Exceptions include education and government provisions for ensuring “necessary public goods, particularly property rights and public safety” (p. 18).

Individual social capital is not the focus in Fukuyama (2001). Instead, the focus is the utility of social capital in economic and political realms. Social capital utility in the economic

realm, Fukuyama (2001) posits, is reduction of “transaction costs” related to “formal co-ordination mechanisms like contracts, hierarchies, bureaucratic roles,” and other transaction structures (p. 10). At the heart of Fukuyama’s (2001) assertion regarding the utility of social capital in the political realm are Tocqueville’s (1835) civil associations. Accordingly, Tocqueville theorised that civil associations level society in terms of socio-economic status thereby promoting the collective over the individual, safeguarding against political corruption through inclusive participation in the political process regardless of socio-economic status, and toward the preservation of a modern democratic state (Fukuyama, 2001). Yet, whereas the function of social capital in the political realm is to foster citizen association participation, over-involvement by states in activities traditionally and/ or historically coordinated at the community level, lowers social capital levels. According to Fukuyama (2001), communities less reliant upon state assistance for addressing their needs have higher levels of social capital because of the strong will community members have to cooperate with each other toward common objectives. Thus, solutions for many community issues are predicated upon the organisational capabilities and cooperative will of the community itself when state assistance is peripheral. Conversely, when state assistance supplants historical and/ or traditional community-oriented methods for addressing community issues, social capital tends to decline. Driving the declination in social capital, Fukuyama (2001) explains that it is the creation of dependencies. Through repetition, communities move away from habitually working together to solve community issues; instead, becoming increasingly and habitually dependent on state assistance to solve local community issues. The effect is an overall reduced willpower for community members to collaborate with each other on community issues.

Extant social capital research delves into all areas of human interactions spanning familial relations; economic ramifications at the individual, firm, community and state levels; political applications of social capital; positive and negative aspects of social capital; elements constituting social capital; social capital typology; methods for measuring social capital; and more. However, research investigating the role of social capital in post-disaster recovery is scant. Several researchers began to fill this research gap.

### **Social capital and post-disaster research.**

Observing that some townships damaged by the 1995 earthquake in Kobe, Japan recovered faster and more efficiently than others, researchers Nakagawa and Shaw (2004) investigate the reasons. Their research reveals that communities with high levels of bonding, bridging, and most importantly linking social capital responded to and recovered from the earthquake more efficiently than neighbourhoods with lower levels of social capital. Notwithstanding this finding, Nakagawa and Shaw (2004) aptly advise that social capital is not the sole arbiter of efficient community-based, post-disaster response and recovery. Social capital must also be accompanied by strong community leadership. These findings were repeated in the study of the 2001 earthquake that struck in Gujarat, India. Thus, Nakagawa and Shaw (2004) conclude; the efficacy of collective, community based post-disaster recovery activities is enhanced when a community possesses high levels of social capital and strong leadership within that community.

The Nakagawa and Shaw (2004) study is one of the earliest studies investigating the role of social capital in post-disaster recovery. Indeed, few studies exist in this realm (Shimada, 2014). Our collective knowledge in this area of academic enquiry continues to grow as subsequent researchers add their respective layers of research to the body of knowledge. One

prominent social capital researcher asserts that strong social capital is the most important determinant of post-disaster recovery efficacy; adding that, high levels of social capital enhance community resilience. Similar findings were observed in Aldrich (2012).

Comparative case study analyses regarding the role of social capital in post-disaster recovery using four disasters: the 1923 Tokyo, Japan earthquake; the 1995 Kobe, Japan earthquake; the 2004 Indian Ocean tsunami; and Hurricane Katrina in New Orleans, Louisiana, are conducted using a variety of quantitative and qualitative research methods in Aldrich (2012). Using this data, Aldrich (2012) argues that, “high levels of social capital, more than such commonly referenced factors as socioeconomic conditions, population density, amount of damage or aid, serve as the core engine of recovery” (p. 15). Though Aldrich (2012) advocates for increasing and strengthening social capital toward building more resilient communities, the negative aspects of social capital are also discussed.

The quantitative data collection in Aldrich (2012) employs a variety of proxy variables to represent and quantify social capital levels. Careful considerations of disaster location, the culture of the people affected by the disaster, and the era of disaster occurrence was taken when selecting proxies to represent social capital. The data was then subjected to a variety of statistical analyses and the subsequent findings from the research were reported. According to Aldrich (2012), the data shows that communities with higher levels of social capital exhibited higher levels of coordination and cooperation in their disaster recovery efforts. Moreover, Aldrich (2012) asserts that the mechanics through which social capital provides resilience prior to, during and after disasters was demonstrated through various recovery trajectories in the cases.

The first conclusion Aldrich (2012) draws from the research findings is that “deep levels of social capital serve as informal insurance and promote mutual assistance after a disaster” (pp.

149-150). Second, Aldrich (2012) asserts that disaster survivors are more effective at responding to issues delaying their collective recovery with “dense and numerous social ties” (p. 150). Another conclusion Aldrich (2012) makes is that strong social connections to disaster-afflicted areas render people more likely to stay and rebuild than to move away from the area. Finally, Aldrich (2012) asserts that the linking form of social capital provided the most benefit for communities recovering from disasters because communities and/ or individuals with connections to government representatives and/ or institutions of authority were able to leverage those relationships to usher in more post-disaster recovery resources than communities and/ or individuals that lack such linking social capital. From the conclusions drawn, Aldrich (2012) recommends a global restructuring away from traditional post- disaster recovery programs “focused primarily on physical infrastructure and toward social infrastructure” (p. 151).

Research conducted in Aldrich (2012) straddles academic disciplines of disaster research and social capital research. Additionally, both quantitative and qualitative research methods were implemented to measure social capital. This attribute adds uniqueness to the study. Aldrich (2012) is perhaps the closest study paralleling the research being undertaken in this thesis. However, there is one missing component: small businesses. This research aims to begin filling that research gap. Thus, the focus of this research is the role of social capital in small business post-disaster recovery.

## **Chapter Summary**

This chapter reviews extant business continuity planning and social capital research literature. The purpose is not to provide an exhaustive review on the subject-matter. Instead, the aim of this review is to provide readers with a solid foundation on these topics, their general theories, their dominant concepts, and the pioneering authors representing their respective fields

of research. This literature review is perhaps less critical than expository in character not from lack of desire or interest but because the researchers delineated in this review were pioneering mavericks whose theories and concepts blazed the trails that subsequent researchers followed in furtherance of building social capital theory. Retroactive critiques of the academicians that paved the way for future social capital research simply for the sake of critique are unproductive, presumptuous and luxurious inasmuch that hindsight offers clarity of vision that researchers investigating novel phenomena do not enjoy. Thus, critical reviews of extant social capital literature herein were reserved for areas that contained something salient to criticise. With the scholars presented in this literature review, there was very little in that regard. Each of the scholars presented in this literature review contributed to the body of knowledge related to social capital theory and are meritorious.

However, none of the scholars represented in this literature review studied social capital in a post-disaster context to investigate how social capital is used by small businesses toward their post-disaster recovery efforts. This area of inquiry was overlooked by all of the previous researchers. To their defence, perhaps it was presumed that social capital aggregates from individuals to organisations and that organisational social capital has the same dynamics as individual social capital. This oversight is the quintessential critical shortcoming shared by the social capital researchers reviewed herein.

The present study aims to close this gap in the literature and to identify if and how small business organisations leverage their social capital toward post-disaster recovery efforts by studying small business organisations in New Zealand that were affected by two separate and distinct seismic events that occurred approximately five years apart on the south island of the

country: the 2011 Christchurch and the 2016 Kaikōura earthquakes. The next chapter discusses the research methodology adopted for this study.

# CHAPTER 3

## METHODOLOGY

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## **Chapter 3 - Methodology**

### **Introduction**

This chapter describes researcher philosophical predilections and the rationale for the research design and approach chosen for this thesis. A discussion regarding researcher philosophical assumptions and paradigm precedes a discussion regarding the process of choosing an appropriate research framework. Numerous research methods were conducive for this research focus. Yet, ultimately, the research topic(s), associated queries under investigation and the overall objectives drove methodological decisions framing this study. Choosing the research framework that was best suited for this investigation was challenging because selecting a research design first required a certain amount of self-reflection to identify my own philosophical predispositions, perceptions of reality and what constitutes knowledge.

### **Philosophical Assumptions**

Beliefs regarding reality, truth and knowledge shape human worldviews. Some individuals subscribe to the philosophy that reality exists independent of human consciousness. Whereas, other individuals assert that reality, truth and knowledge are constructed by perceptions of reality with those perceptions varying with each individual. Under this worldview, it is posited that reality and knowledge are influenced and constructed by variables that include culture, tradition, religion, superstition, experience, authority, values, habits, attitudes, and media. Structured scientific research is used by academics from both philosophical worldviews to investigate and understand natural and social phenomena. Scientific research is therefore commonly categorised under the quantitative or the qualitative philosophical paradigm.

A primary objective of scientific research is to fill gaps in knowledge, to provide solutions to problems, and/ or both (Badewi, 2013). Three predominant research classifications

exist: (1) *exploratory research*, to gain insights into phenomena that are occurring; (2) *explanatory research*, to identify causal relationships between variables and phenomena; and (3) *descriptive research*, to describe people, events or phenomena. Within all research classifications, structure exists.

Structured research is a nested system with correlative concepts. These correlates include paradigm; ontology; epistemology; methodology; and research approach. Introspection regarding these concepts helps researchers identify their philosophical predisposition(s). Consequently, researchers are empowered to adopt an appropriate research framework from whence to proceed with their research. The journey begins by identifying and acknowledging core researcher philosophical underpinnings shaping their perception of reality and what constitutes knowledge.

### **Paradigm.**

Guba and Lincoln (1994) define a paradigm as,

A set of basic *beliefs* (or metaphysics) that deals with ultimates or first principles. It represents a *worldview* that defines, for its holder, the nature of the “world,” the individual’s place in it, and the range of possible relationships to that world and its parts (p. 107).

Though numerous paradigms exist, three preeminent paradigms frequently referenced in research methodology literature include: (1) positivism; (2) critical theory; and (3) social constructivism, also referred to as interpretivism. The term paradigm is used rather loosely contributing to its conceptual abstraction. Introspection purposed toward a perfected paradigmatic alignment can be elusive and tenuous. Nevertheless, it is a necessary exercise for disclosing and justifying the rationale selected for the method and approach used to conduct research. Hence, self-reflection is a necessary precursor.

Self-reflection on the nature of reality and knowledge can be analogous to shifting sand dunes. As the researcher reflects on their beliefs regarding reality and knowledge, the reflections

can seemingly shift with each paradigmatic gust of wind just as the sand dunes do during a sirocco. After reflecting upon my perception of reality and what it is that constitutes knowledge, I attempted to pigeonhole myself within one of the three philosophical paradigms referenced above. Ultimately, positivism most closely aligns with my perception of reality. That reality has been shaped by major scientific advancements throughout human history; the resulting fruits of positivist research. Positivists quantify the world around them. Indeed, quantification led to mathematics. Mathematics facilitated our understanding of the physical world around us in ways that would not be possible otherwise; it is instrumental to the sciences of chemistry and physics, as examples. Without quantification, our human existence would be primitive. Inter-continental travel would not exist; and air flight, satellites and space travel would be highly unlikely. For these reasons and more, I am pre-disposed toward positivism. However, the austerity of positivist philosophy was found to be overly rigid and limiting for the current research being undertaken. Alternatively, a postpositivist paradigm was adopted for this research.

The alternative philosophical paradigm most closely resembling my perception of reality and subsequent knowledge creation is the postpositivist paradigm. However, the nature of this research and its queries required a paradigmatic shift from my philosophical, epistemological, ontological, logical, strategic, and methodological baselines, reflected below in Table 3.1. The justifications for these shifts are discussed later in this chapter. Before discussing and justifying these shifts, a discussion of positivist, postpositivist and interpretivist paradigms is warranted.

**Table 3.1. Researcher philosophical assumptions and adaptations.**

	<b>PHILOSOPHICAL PREDISPOSITION</b>	<b>PHILOSOPHICAL ADAPTATION</b>
PARADIGM	Postpositivism	Interpretivism
EPISTEMOLOGY	Rationalism	Subjectivism
ONTOLOGY	Objectivist	Subjectivist
LOGIC	Deductive	Inductive

STRATEGY	Quantitative	Qualitative
METHOD(S)	Surveys, questionnaires, etc.	Multiple case study

***Positivism.***

Traditionally, scientific research has been conducted under the positivist paradigm. The general maxim of positivist philosophy is that true knowledge can only be obtained through empirical methods of observation regarding natural phenomenon that produce verifiable facts derived from strict adherence to scientific method involving hypothesis testing and replicability to generate theory (Chandler & Munday, 2016). Moreover, positivist purists reject a priori knowledge and metaphysical speculations or explanations regarding knowledge and reality that cannot be tested, validated and replicated in favour of a posteriori knowledge or data obtained through sensory experience and rigid adherence to the scientific method (Feigl, 2017). Hence, research characteristics associated with a positivist philosophical paradigm, as shown in Table 3.1 (above) may be summarised as quantitative; empirical; deductive; rational; and objective with a high degree of separation between the researcher and the research subject(s).

Alternatively, a postpositivist philosophical paradigm amends the rigidity of the positivist paradigm while retaining many of its attributes.

***Postpositivism.***

Whereas, under the positivist philosophical paradigm, reality and scientific knowledge derives exclusively through quantitative research; under the postpositivist paradigm, the search for reality and scientific knowledge can employ either quantitative or qualitative approaches or both. Another major difference between positivism and postpositivism, according to Creswell (2013), is that under a postpositivist philosophical paradigm, a priori theories are not construed as violative to the research process; unlike the positivist philosophical paradigm. Creswell (2013) opines, “postpositivist researchers view inquiry as a series of logically related steps, believe in

multiple perspectives from participants rather than a single reality, and espouse rigorous methods of qualitative data collection and analysis” (p.24). To summarise, postpositivists seek knowledge through the application of a “deterministic philosophy” regarding cause and effect using reductionist logic to analyse empirical observations and measurements toward verification of a priori theories (Creswell, 2014, p. 7). In sharp contrast to both positivism and postpositivism, interpretivism employs a qualitative research strategy instead of a quantitative strategy.

### ***Interpretivism.***

The essence of an interpretivist philosophical paradigm is the belief that subjective meanings shape our understanding of the world that surrounds us. Creswell (2013), states that interpretivists consider reality to be constructed meaning; that it is subjective and varied with multiple views “formed through interaction with others . . . and through historical and cultural norms . . .” adding, interpretivists investigate the methods in which people interact (Creswell, 2013, p. 25). Most organisational researchers adopt either a hermeneutical or phenomenological approach when conducting interpretivist research.

According to Yanow and Ybema (2009), hermeneutics focuses on the relationship between “written texts . . . “spoken words, film . . . built spaces and other non-word-based artefacts . . . and acts . . . and their ‘underlying’ meanings”” (p. 40). Symbolic representations of meaning are widely used by organisations to market their products and services. For example, the McDonald’s restaurant giant uses the globally recognised golden arches to symbolically represent restaurant food products, customer service, reliability, and consistency. Thus, branding is a form of hermeneutics.

Whereas hermeneutics studies symbolic representations for associated meaning, phenomenology focuses on processes through which people with shared experiences make sense

of the world around them (Creswell, 2013; Yanow & Ybema, 2009). Creswell (2013) provides several defining features of phenomenological research including (1) a focus on a phenomenon rather than an object; (2) the exploration of a phenomenon experienced by a group of people; shared phenomenological experience; (3) reduction of individual phenomenological experiences into a shared “universal essence” of the shared phenomenological experience; and (4) production of a “composite description” conveying “the essence” of the shared phenomenological experience for the group which describes the phenomenon experienced and how it was experienced (p. 76).

### **Choosing an interpretivist research framework.**

The decision to conduct this research under an interpretivist philosophical paradigm was made after thoroughly considering all paradigmatic options. The subject matter of this research, organisational social capital, is challenging to quantify because of its intangibility and temporality. To be sure, mapping personal and business networks can be accomplished using visual aids such as sociograms. Nevertheless, quantifying social capital strength and typology remains to be challenging. Social capital has sociological, cultural, emotional, familial, and other constitutional elements rendering its quantification a difficult endeavour, to be sure. Conducting this research under a postpositivist paradigm presented its own challenges in two areas.

The first issue is the matter of quantification related to social capital. According to researchers from the World Bank (2011), measuring social capital is problematic because multidimensional “definitions of social capital, incorporating different units of analysis” that are used as proxies to measure social capital are often conceptually ambiguous like “*community*, *network* and *organization*” (p. 1). Although Putnam (2000) quantified social capital in his

research, he did so at the individual level not at the organisational level. Moreover, Putnam (2000) used data collected from publicly available sources; he did not interview individuals in his research. Quantifying social capital continues to be problematic for researchers as there is no consensus among researchers on a universal measurement. Therefore, proxies are used to measure social capital.

A priori theory related to small and medium-sized enterprise business continuity planning was not problematic. Extant research shows that the vast majority of small-to-medium-sized enterprises do not engage in business continuity planning (Banks & Small Planet Works, 2010). Consequently, a priori theory posited in this research was that a similar finding would result.

Post-disaster research regarding small and medium-sized enterprise use of business continuity plans is quantifiable and easily achieved through questionnaires and/ or surveys. However, identifying how social capital is created, maintained and leveraged by small-to-medium-sized enterprises toward their post-disaster recovery is difficult to quantify, as already stated. Capturing detailed data through surveys or questionnaires would be extraordinarily difficult. For example, lists of prospective research participant organisations would need to be compiled; a survey questionnaire would need to be developed; invitations to participate in the research would need to be mailed to prospective research participants incurring printing, supply and postage costs, with no guarantee of participation. Whereas, printing and mailing costs would be expensive, potentially low participation rates and an inability to query research participants directly might result in research findings that lack depth, are ungeneralizable and/ or unverifiable.

Another consideration is survey fatigue (Hall et al., 2016). After the 2011 Christchurch earthquake, the city was inundated with researchers conducting various forms of research,

including conducting surveys. The result might be that prospective participants are simply tired of participating in research, further exacerbating the possibility of low participation rates.

Additionally, measuring social capital strength and typology is subjective; a direct contravention of the objectivism required under a postpositivist research paradigm. Deficiencies concerning quantification, objectivism, and a priori theory validation necessitated conducting this research employing a different paradigm. Thus, it was determined that the paradigm that was best suited for this research was an interpretivist philosophical paradigm.

Unlike the natural sciences with laws of physics, mathematics, and an empirical approach to understanding the world around us, the social sciences investigate human behaviour, society and inter-personal relationships without such empiricism. Consider, for example, the quantification of human emotions. Empirically, it is not possible to quantify happiness or sadness; it is a purely subjective measurement unique to each individual human being. So too are many aspects in social science research. Similarly, decisions and behavioural patterns of small-to-medium-sized enterprises are unique. The post-disaster recovery needs of small and medium-sized enterprise are also unique.

Investigating the role of social capital in the post-disaster recovery efforts of small-to-medium-sized enterprises requires the investigator to gather in-depth data directly from small and medium-sized enterprise leaders for meaningful insights. Surveys and questionnaires, even with open-ended questions, are not conducive to this type of data collection for varied reasons. Additionally, focus groups are inappropriate for this type of research due to anonymity concerns regarding the research participants. That is, it would be extraordinarily difficult to protect the anonymity of research participants in focus groups.

Expectedly, “how” and/ or “why” questions often result in long-winded answers frequently generating additional queries. These secondary inquiries need timely postulation while at the forefront of participants’ thought processes. In essence, researchers need to strike the proverbial iron while it is hot. This is best achieved through direct and timely interaction between the researcher and the research participant(s) and is effectively performed through the interview process. Therefore, a multiple case study approach using interviews as the method for collecting data was adopted for this research.

This method provides an intimate environment for the researcher and the research participant facilitating the building of trust and rapport; it protects the anonymity of the research participants; and flexibly allows for tangential lines of enquiry and/ or follow-up questions. For these reasons, the multiple case study using interviews to collect information was the most promising research method toward capturing in-depth data regarding how small-to-medium-sized enterprises leveraged their social capital toward their respective post-disaster recovery efforts after the 2011 Christchurch and 2016 Kaikōura earthquakes.

### ***Multiple case study.***

Conducting this research using multiple case study methodology was both a viable approach and the most promising in terms of collecting in-depth data for this study. A research methodology matrix provided by Yin (2014) indicates that case study methodology is appropriate when (1) the research question is in the form of a *how* or *why* query; (2) there is no requirement for the researcher to control behavioural events; and (3) the research subject matter focuses on contemporary events. Yin (2014) defines a case study as “a study that investigates a contemporary phenomenon in depth and in its real-world context” (p. 237). Nuanced in his definition, Stake (2000) asserts that, “Case study is not a methodological choice but a choice of

what is to be studied” (p. 435). Notwithstanding the distinction made by Stake (2000), case study research has several defining features wherein Creswell (2013), Stake (2000) and Yin (2014) are in agreement; particularly, regarding the concept of bounding.

According to Creswell (2013), one feature of case study research is that the case is “bounded or described within certain parameters, such as a specific place and time” (p. 98). The bounding parameters of this study are the small and medium-sized enterprise communities within Christchurch and Kaikōura, New Zealand. Additionally these respective small and medium-sized enterprise communities are bound phenomenologically by the seismic events they experienced. A second common feature of case study research is that the cases are contemporary, real-life cases that are ongoing (Creswell, 2013; Yin 2014). In that regard, the Christchurch and Kaikōura research participants in this study were all in the recovery phase of their respective disasters at the times of the research interviews.

The objective intent of a research endeavour is an important factor to consider when contemplating case study research and depends upon the objective(s) of the researcher and/ or the stakeholders. The intent of the case study may be to highlight unique or unusual topics or subject matter that needs detailed description. This is referred to as an *intrinsic case study*. Creswell (2013) states that the intent of the case study may alternatively be to “understand a specific issue, problem, or concern . . .” referred to as an *instrumental case study* (p. 98). Three predominant variations of case study research design exist and are directly related to the intent of the research.

The single instrumental case study design is concerned with a focal issue employing a single, bounded case to underscore that issue being investigated. The intrinsic case study focuses on the “case itself” such as a program evaluation (Creswell, 2013, p. 100). The last case study

design to consider is the collective case study or multiple case study design. This case study design also focuses on a dominant issue to be investigated but employs more than one case to highlight the research issue. This thesis employs a multiple case study approach to investigate how social capital was leveraged by small-to-medium-sized enterprises in New Zealand toward their post-disaster recovery efforts. To be sure, the case study research approach has its shortcomings.

One major concern Yin (2014) cites is whether the researcher implemented and “followed systematic procedures” and whether or not the researcher “allowed equivocal evidence to influence the direction of the findings and conclusion” (pp. 19-20). Another criticism of case study research is that it requires a tremendous amount of effort and time, often producing copious amounts of data and documents. Generalising the findings from case study research is another issue. Small sample size makes universal generalisations from the research findings unlikely. Yet, according to Yin (2014), the goal of the researcher conducting case study research is to “expand and generalize theories (analytic generalizations) and not to extrapolate probabilities (statistical generalizations)” (p. 21).

Indeed, generating theory from case study research is possible according to Eisenhardt (1989) and is “especially appropriate in new topic areas” (p. 532); adding, “case studies can be used to . . . provide description . . . , test theory . . . , or generate theory . . .” (p. 535). Importantly, Eisenhardt (1989) identifies an important by-product associated with building theory from case study research as the ability to generate “. . . novel theory” (p. 546). Another important consideration is that case study research is commonly used in disaster research.

Disaster research has been widely conducted using the “. . . interview-based, case study . . .” method according to Phillips (1997, p. 179). Disaster research has a long history employing

case study research dating back to Prince (1920) and his investigation into the 1917 Halifax disaster in Nova Scotia, Canada (Phillips, 1997). The tradition of using a qualitative case study research approach in disaster research has continued to this day and is frequently used by some of the most reputable disaster researchers in the world including Disaster Research Center founders, E. L. Quarantelli and Russell Dynes (Phillips, 1997). Supporting qualitative disaster research design in disaster studies, Phillips (1997) makes the following observations:

(1) Because disasters challenge communities in unexpected ways, and with unanticipated consequences, QDR [Qualitative Disaster Research] can capture human behaviour [*sic*] at its most open, realistic moments (p. 185); (2) the most commonly used qualitative method in disaster research is undoubtedly interviewing (ranging from fairly focused projects to longitudinal, in-depth studies or even life histories), usually resulting in a case study format (p. 188); and (3) the most understudied disaster phase has always been recovery (p. 189).

Hence, a long and proven history of successful disaster research using a case study research approach also influenced the decision to conduct this research using the time-tested case study research approach. Whereas, this research objective is to generate novel theory from the multiple small and medium-sized enterprise cases, many researchers seek to generate theory using a grounded theory research design.

### ***Grounded theory.***

An important disclosure is necessitated to distinguish the present research from pure grounded theory research. The present research was **not** conducted using a purely grounded theory research framework. Rather, grounded theory methods were used to analyse the data collected in this research. The purpose of grounded theory is to build theory from the research data. Unlike traditional theory generation wherein a researcher posits hypotheses prior to the commencement of the research, grounded theorists begin their research without a priori hypotheses (Charmaz, 2000; Creswell, 2013; Goulding, 2009; Strauss & Corbin, 1998). Theory

generation is derived from the research data in pure grounded theory research; that is theory is generated, a posteriori. Grounded theory research provides a structured approach for the researcher to follow making it an attractive research design, especially when conducting qualitative research (Charmaz, 2000; Creswell, 2013; Goulding, 2009; Strauss & Corbin, 1998).

Key features and processes of grounded theory research design include: (1) the generation of theory from collected data; essentially, theory built from the ground upward; (2) theoretical sampling for the selection of research subjects, be it persons or places, that will most likely provide actionable data for the research objective(s) (Charmaz, 2000; Creswell, 2013; Goulding, 2009); (3) concurrent data collection and analysis; (4) continuous comparative analyses of collected data; (5) frequent memo writing throughout the entire research endeavour with the goal of constructing “conceptual analyses” (Charmaz, 2000, p. 510); and (6) simultaneous preliminary data coding as it is collected using open coding. Preliminary open coding is then refined using secondary axial coding to link categorised codes with their sub-categorised codes, which are then expressed as a visual model. The last step in the grounded theory coding process is to use selective coding wherein the researcher uses the model developed from axial coding to frame theory. Noteworthy, is that data collection in grounded theory is frequently captured through the use of interviews (Creswell, 2013). Despite its increasing popularity as a research framework, grounded theory is not flawless. There are critical concerns worth mentioning.

Suddaby (2006), a reviewer for the prestigious Academy of Management journal, asserts that the term grounded theory is generically over-used and adds, what many researchers presume qualifies as qualitative research is “profoundly misunderstood” (p. 633). According to Suddaby (2006), the intent of Glaser and Strauss, the scientists responsible for conceptualising and

developing the concept of grounded theory , was to bridge the chasm between “extreme empiricism and complete relativism” for the purpose of developing “theories that address the interpretive realities of actors in social settings” (p. 634). To be sure, bridging the divide between positivism and its empirical, objective observational methods of research and interpretivism with its qualitative, subjective methods of research was a monumentally important step in bridging the paradigmatic chasm. Yet, Suddaby (2006) argues that most research is not purely grounded theory and identifies six grounded theory methodological misconceptions:

- 1) Grounded theory is not an excuse to ignore the literature
- 2) Grounded theory is not presentation of raw data
- 3) Grounded theory is not theory testing, content analysis, or word counts
- 4) Grounded theory is not simply routine application of formulaic technique to data
- 5) Grounded theory is not perfect
- 6) Grounded theory is not easy

The first misconception about grounded theory is that the researcher should enter the investigation essentially, *tabula rasa*. Some grounded theory researchers misinterpret the recommendation to forego a priori theories as a recommendation to ignore extant literature related to the research topic as well as their own personal experiences. This is problematic for a number of reasons.

Intuitively, finding a research gap without reviewing extant literature may result in conducting research on topics already extensively investigated by other researchers, something Suddaby (2006) refers to as, conducting research in “well-tilled soil” (p. 634). Such an unfortunate oversight could result in the researcher conducting research where no research gap actually exists. Moreover, failing to review extant literature on the research topic renders development of the research question(s) tenuous. Similarly, attempting to disregard influential personal experience(s) and the affect they have on perception of reality is tantamount to looking into a mirror and either not recognising or ignoring the reflection. Succinctly, Suddaby (2006)

asserts, “Leaving aside the question of whether it is even possible to disregard one’s prior knowledge and experience, the idea that reasonable research can be conducted without a clear research question and absent theory simply defies logic” (p. 634).

Prior to commencing this investigation, an exhaustive literature review was conducted related to social capital, business continuity planning and disaster research. Additionally, numerous years of experience assisting small businesses recovering from disaster incidents as an official representative from an emergency management agency with the United States government provided a degree of insight not easily discarded. Thus, the review of extant literature amalgamated with personal experience facilitated the identification of a research gap as well as the formulation of the research question(s) for this study.

Charmaz (2008) refers to grounded theory research that is conducted with a priori data, such as researcher experience, perception, subject matter expertise and/ or familiarity, as *constructivist grounded theory* because of its flexibility in terms of allowing researchers the latitude to become embedded in the research process versus observing the phenomena from a sterile distance. Stated differently, constructivist grounded theorists do not view researcher perceptions or their familiarity with the subject matter of the research as problematic. Indeed, Charmaz (2008), arguing in favour of this form of grounded theory asserts that, “Researchers who treat grounded theory as consisting of a few flexible yet systematic guidelines create the conditions to define emergent categories” (p. 161) adding, “. . . a researcher has latitude not simply to *choose* the methods but also to *create* them as inquiry proceeds” (p. 162). Hence, Charmaz (2006) favours the more flexible, constructivist grounded theory approach to grounded theory research arguing that it facilitates “imaginative engagement with the data” (p. 168) over the rigid, mechanical and procedural approach to grounded theory. Charmaz (2006) further adds

that the mechanical and procedural approaches to grounded theory research undermine the “emergent qualities” of grounded theory “and erase its potential for sparking new theoretical analyses” (p. 168). Accordingly, conducting this research without having reviewed extant literature related to social capital and/ or disregarding years of praxis in the field of emergency management specifically helping small businesses recover from disasters would have been an overly-rigid adherence to grounded theory methods.

A second misconception about grounded theory is that the end product of the research is the conveyance of raw data coalescing in conclusions that are unoriginal or self-evident. Suddaby (2006) indicates that this may be the result of one of three shortcomings in the application of grounded theory research: (1) “confusion between grounded theory and phenomenology” (p. 635); (2) “failure to [elevate] data to a conceptual level” (p. 636); and/ or (3) not reaching data saturation. Achieving data saturation was not an issue in the current research and was readily apparent after transcribing and coding the first 15 – 20 interviews. Elevating the research data toward conceptual clarity was guided by existing disaster recovery and social capital literature. The primary challenge in elevating the data to conceptual clarity was contextual in that extant literature related to how small-to-medium-sized enterprises leverage their social capital toward post-disaster recovery efforts, is scarce. Hence, achieving conceptual clarity in this context relied largely on data gleaned from the research interviews. The novelty of this research topic coupled with extensive literature review on disaster recovery and social capital rendered a pure grounded theory approach for this study less favourable than a multiple case study research approach. Lastly, the decision to conduct this research using a multiple case study approach was also influenced by the research approach traditionally used by leading disaster and emergency management scholars.

## **Disaster Research**

The vast majority of the earliest disaster research conducted was qualitative, descriptive and lacking in theory generation (Barton, 1969). Following in those early footsteps, the predominant method used in contemporary disaster research continues to be field studies, also referred to as qualitative case studies (Drabek, 1970; Phillips, 1997; Stallings, 2006). This is not to imply that other methods are not used in disaster research. However, the vast majority of published literature related to disaster studies has been the result of the case study approach using structured and unstructured interviews as the primary means for data collection (Drabek, 1970; Phillips, 1997). The difference between disaster research and research conducted in other fields is in the context in which the research is conducted (Mileti, 1987). Contextually, the differences associated with disaster research and research conducted in other fields includes the timing of the research, the access to research subjects, the post-disaster research environment, and the generalisability of the research findings.

### **Timing.**

The issue of timing, according to Stallings (2006), refers to when data collection occurs relative to the occurrence of the disaster. Indeed, it is suggested that disaster research should begin immediately during the disaster or as soon as possible after an event (Quarantelli, 2002; Stallings, 2006). Failure to do so can risk the validity of the findings (Drabek, 1970). Qualifying the rationale behind this assertion, Quarantelli (2002) states that “Victims are typically candid, cooperative, and willing to talk in ways far more difficult to get later” (p. 107). Notwithstanding this sage advice, it is not always possible for a researcher to do so for a variety of reasons. In the case of this research, timing was affected by the inability to initiate contact with research participants in Kaikōura because of road closures and ongoing emergency response activities.

With the Christchurch event, it was simply not embarking upon the research until five years after the disaster. However, with both the Christchurch and Kaikōura disasters, recovery was actively ongoing at the time that the interviews were conducted with research participants. Thus, this research is arguably in compliance regarding the issue of timing. Access to participants is another concern when conducting research in a post-disaster research environment.

### **Access.**

Access refers to the ability of the researcher to access participants for the purpose of conducting interviews and reviewing documents. Stallings (2006) argues that this becomes “difficult if not impossible later in the disaster process” (p. 61). However, the disaster research subjects Stallings (2006) refers to are predominantly professional emergency responder organisations, not business organisations.

Another concern Stallings (2006) makes is regarding participant bias, arguing that organisations present an image that tends to project a positive public image. Perhaps more concerning is participant suspicions of outsiders when armies of researchers descend upon afflicted areas making prospective research participants less cooperative or willing to participate in the research (Drabek, 1970; Hall et al., 2016; Stallings, 2006). Despite these concerns, access to research participants was not an issue experienced during this investigation once the response phase of the disaster transitioned into the recovery phase. Participants were cooperative and candid about their experiences. To be sure, the post-disaster research environment itself presents numerous challenges for researchers.

### **Post-disaster research environment.**

The post-disaster research environment is different than research environs not impacted by disaster and poses many challenges for researchers. People move away; organisations

dissolve; road networks, transportation routes and access to buildings may be restricted or inaccessible; and people are busy trying to recover and rebuild. Research participants may suffer psychological wounds associated with the disaster. The emotional well-being of research participants is paramount. The researcher must closely monitor the emotional well-being of research participants for signs of emotional trauma during the interview process. Research conducted in a post-disaster environment is vastly different than conducting research in settings that have not been impacted by disaster and requires a slightly different approach regarding participant selection, the collection of data and the emotional needs of research participants.

### **Generalisability of findings.**

Finally, on the issue of the generalisability of the findings associated with disaster research conducted through case studies, Stallings (2006) asserts that small sample sizes in disaster research using a case study approach undermine neither the importance nor the generalizability of the findings when “nonprobability purposive sampling” is employed to select research participants (p. 63). Moreover, Mileti (1987) asserts that disaster research is essentially conducted non-randomly or purposively because disaster research case study samples are born from individual disasters, each having their own respective nuances. Hence, because no two disasters are the same, core randomness exists within the event under investigation by virtue of the uniqueness of each disaster. To summarise, the selection of research participants using purposive, non-random sampling strategies is an efficient and productive sampling strategy yielding high quality data while effectively offsetting the typical large sample size requirements associated with scientific inquiry and the generalizability of research findings.

## **Conclusion**

This chapter addressed the methodology and approach adopted for this research. Researcher philosophical assumptions and worldview predisposition(s) begin the discussion followed by a reflection on why an interpretivist paradigm was selected as the best suited method for this research. The rationale for the research approach employed in this study – a multiple case study employing interviews to capture in-depth data – was explained and justified as was the rationale for not using a purely grounded theory approach. Instead, grounded theory methods were used for the data analysis, further discussed in chapter five. Peppered throughout this chapter were axiological and reflexive self-disclosures. The chapter concluded with a discussion on the widely-used research methodology used in disaster research; the case study. Each of these variables influenced the decision to conduct this research using a qualitative research paradigm using a multiple case study approach and employing interviews as the predominant form of data collection. The next chapter delves deeper into the data collection process used in this study.

# CHAPTER 4

## DATA COLLECTION

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## Chapter 4 - Data Collection

### Introduction

Chapter three addressed the methodological underpinnings and research approach used for this study and touched briefly on data collection. This chapter delves further into the procedures used to collect data in this study. The chapter begins by framing the research in its contextual setting followed with an overview of the research participants. A detailed description of the sampling strategy employed for this study follows the overview of the research participants. The chapter concludes with a discussion on the research participant selection criteria used for this study. Two New Zealand cities experienced two disastrous earthquakes separated by approximately five years and 181 kilometres. These two seismic events are the stages from whence the small-to-medium-sized enterprises participating in this study shared their post-disaster experiences. Therefore, we begin with the backstories of our story's two antagonists: the 2011 Christchurch and the 2016 Kaikōura earthquakes.

### Tales from Two Cities: Post-Disaster Christchurch and Kaikōura

#### Christchurch 2011 earthquake.

Christchurch, New Zealand, a city populated by more than 400,000 people, suffered a devastating 6.3 Mw earthquake on February 22, 2011 at 12:51 PM resulting in 185 deaths<sup>1</sup>. The 2011 earthquake was an aftershock of the 7.1 magnitude earthquake that occurred on September 4, 2010. Although smaller than the 2010 earthquake, characteristics associated with the 2011 earthquake correlate to its causative destructive properties; particularly, structural damage to buildings.

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<sup>1</sup> Facts and figures cited in this section regarding the Christchurch earthquake, unless otherwise referenced, were sourced from Canterbury Earthquake Recovery Authority (2011, September.) *Draft Recovery Strategy for Greater Christchurch*. Retrieved from <http://ceraarchive.dpmc.govt.nz/sites/default/files/Documents/draft-recovery-strategy-for-greater-christchurch.pdf>

### *Seismic complexity.*

The magnitude of damage caused by the 2011 Christchurch earthquake befuddled scientists at first. The 2011 earthquake was significantly smaller in magnitude than the 2010 earthquake. Yet, the damage was much more severe. The obvious question was why? And through what seismic mechanism(s) was this possible? To be sure, previously weakened and/ or damaged structures caused by the 2010 earthquake contributed to the structural failures of buildings and infrastructure in the 2011 earthquake, yet this was not a singular cause. Despite its comparatively smaller magnitude to the 2010 earthquake (7.1  $M_w$ ), seismic characteristics of the 2011 earthquake (6.3  $M_w$ ) made it significantly more damaging to the built environment.

The 2011 Christchurch earthquake had unique properties that contributed to the structural damage it caused to residential and commercial buildings. Proximity to the Christchurch central business district and the earthquake's epicentre depth were significant factors. According to GeoNet, a geological hazard monitoring system in New Zealand, the earthquake epicentre was five kilometres southeast of Christchurch central business district with a shallow depth of 5 kilometres and a reverse thrust fault focal mechanism (GNS Science, n. d. a). The shallow depth of the earthquake was coupled with extraordinarily high peak ground acceleration of 1.8 g; the highest peak ground acceleration ever recorded and much higher than the peak ground acceleration levels recorded in the 2010 Haiti earthquake.

Earthquake-induced liquefaction is a natural condition wherein saturated soil loses its strength and integrity as a result of stress such as seismicity. In the Christchurch earthquake, liquefaction caused flooding and other structural failures; primarily to residential buildings. The earthquake also triggered landslides, rock falls and cliff collapses resulting in morbidity and additional damage to residential structures and roads. Concerns regarding the threat of additional

landslides, rock falls and cliff collapses were exacerbated by thousands of aftershocks. Over 7000 aftershocks were recorded between February 22, 2011 and August, 2011.

***Structural damage to buildings.***

Structural damages to buildings resulting from the 2011 Christchurch earthquake were widespread. According to CERA (2011), the earthquake caused catastrophic structural failure to thousands of residential and commercial buildings in the central business district and surrounding suburban communities. Over 100,000 residential properties were severely damaged and required remediation. Too costly to repair and too dangerous to occupy, 10,000 homes were demolished, according to Townsend (2016). There was significant damage to one-half of the commercial buildings in the central business district that required remediation. Some commercial buildings could not be repaired and/ or owners chose to rebuild instead; regardless, 1,240 were demolished. Beyond damage to buildings, the earthquake caused vast damages to the city's infrastructure.

***Infrastructure damage.***

Public venues, road networks, electrical power distribution networks, sewage and water systems, and outdoor recreation areas were affected by the 2011 Christchurch earthquake. For example, 24 of the 45 public swimming pools in Christchurch were closed due to cracking. Numerous historic buildings, museums, churches, 10 performing arts centres, and sports clubs were closed and/ or suspended their operations. Damages to some public schools required the relocation and integration of students from schools with earthquake damage into schools without damage. Lifeline utilities were also affected.

Damages to lifeline utility distribution networks and systems including electrical power, water, and sewage treatment facilities caused outages and environmental pollution. The

earthquake impacted the electrical power distribution grid and damaged 205, 11Kv power lines. Water distribution systems were severely affected with 124 kilometres of water main pipes damaged. Immediately after the earthquake, Christchurch residents did not have basic water supplies for several days. Once water was restored, it was not potable. Citizens were advised to boil water prior to ingestion. Three hundred kilometres of the Christchurch sewer pipe system were damaged by the earthquake and cascaded into a secondary natural environment disaster as the discharge of raw sewage and silt into rivers and estuaries threatened ecosystems. Elsewhere, other nature areas were affected.

Access to natural recreation areas was significantly impacted by the earthquake. Hiking tracks and other popular outdoor areas were deemed unsafe for the public because of concerns for latent falling rock, debris and cliff collapse. The damage that the earthquake caused to road networks was significant. Fifty thousand road surface defects needed to be repaired rendering roads with defective surfaces unsafe to drive upon.

### ***Economic impact.***

The economic impact to Christchurch from the earthquake was a boom for construction, architectural and engineering firms involved in the rebuild. The Reserve Bank of New Zealand (2016) estimated that the Christchurch rebuild would cost approximately NZD \$40 billion. The rebuild costs were itemised as: \$16 billion to repair or replace damaged residential properties; \$16 billion to repair or replace commercial properties; and \$7 billion to repair the Christchurch infrastructure. There have been 390,000 insurance claims related to the 2011 Christchurch earthquake submitted to New Zealand Earthquake Commission. To be sure, numerous organisations involved in the Christchurch rebuild and/ or residential or commercial construction enjoyed increased revenues from more work associated with the earthquake damages (Cairns,

2012; City Metric, 2014). However, for other firms, especially small-to-medium-sized enterprises located in the central business district, the disaster created many hardships (CERA, 2011).

According to CERA (2011), 60 percent of the 5000 businesses in the central business district were displaced. Thirty percent of businesses in the central business district could not trade; another 30 percent operated from temporary locations. These business challenges displaced 50,000 workers in the central business district. Continuity of post-disaster businesses operations in the central business district required adaptability, flexibility and perseverance.

The rebuild is a long and costly process exacerbated by thousands of aftershocks causing further delays. Many small-to-medium-sized enterprises were still in the recovery phase at the time of this research. For example, one organisation had just moved into its permanent location after more than five years of trading from a temporary business site. Another organisation had just re-opened after more than five years of delays in obtaining building consents. Indeed, the first organisation I interviewed was operating out of a temporary location five years after the earthquake and finally moved into a permanent location approximately one year after the research interview. Thus, the research was very much conducted in a post-disaster context despite the fact that so much time elapsed since the date of the earthquake.

Some research participants were frustrated with the pace of the recovery. Many openly expressed disenchantment with their insurance companies. Although most participants expressed appreciation and satisfaction for the post-disaster assistance typologies and levels provided by government agencies, several participants were more critical of the post-disaster government assistance that they received. Despite the challenges associated with recovery and the emotions

accompanying them, the majority of prospective small-to-medium-sized enterprises solicited for participation in this research were overwhelmingly generous with their time and insights.

Although the earthquake occurred many years ago, the catastrophe is etched into the collective psyche of Cantabrians. The Christchurch skyline was for years dotted with construction cranes reflective of the magnitude of damage that was caused by the 2011 earthquake. Similarly, the exoskeleton of the iconic Cathedral Square that remains standing in the heart of the Christchurch's central business district reminds Cantabrians and educates visitors about the 2011 disaster. Moreover, because more than half of the Christchurch small-to-medium-sized enterprises were still recovering from the disaster at the time of data collection, the research data is both timely and insightful. Hence, despite the passage of time between the event and the time of data collection, data decay was an inescapable possibility that could be mitigated against but not eliminated. This is true for any data collected from another individual, post-event. While in the process of collecting data from Christchurch small-to-medium-sized enterprises, another large earthquake struck the south island of New Zealand in the Canterbury Region, approximately 90 kilometres north of Christchurch.

### **Kaikōura 2016 earthquake<sup>2</sup>.**

Kaikōura is a small town on the south island of New Zealand in the Canterbury Region. According to the 2013 census, the Kaikōura District has a population of approximately 3500 residents (Statistics New Zealand, n. d. a). Kaikōura, remotely located on the eastern coast, is a popular tourist destination. Importantly, it is also a gateway to other tourist destinations.

Anchor businesses such as whale and dolphin watching and swimming with dolphins spurred cottage businesses in the hospitality and outdoor adventures sectors. The summer

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<sup>2</sup> Facts, figures and findings cited in this section, unless otherwise referenced, are from Kaiser, et al. (2017). The 2016 Kaikōura, New Zealand, earthquake: Preliminary seismological report. *Seismological Research Letters*, 88(3), 727-739. doi:10.1785/0220170018

months of the year are typically robust for Kaikōura small-to-medium-sized enterprises. The revenue generated during the summer season carries small-to-medium-sized enterprises through the lean winter months.

Shortly after midnight on November 14, 2016, just as the summer surge of tourists and an expected bumper year in tourism was to begin, Kaikōura suffered a magnitude 7.8  $M_w$  earthquake centred approximately 105 kilometres south of Kaikōura at a depth of 15 kilometres (GNS Science, n. d. c). The earthquake caused tens of thousands of landslides; many along the northern and southern portions of State Highway 1, the main road artery in and out of Kaikōura (Kaiser et al., 2017). The alternative access road, the Inland Kaikōura Road (formerly State Highway 70), was also closed as was the Main North Line, the railway connecting Christchurch to Picton, located at the northern end of the south island. Eleven days after the earthquake, limited access resumed to Kaikōura through State Highway 1 for emergency responders but remained closed to the general public for the next *13 months* until December 15, 2017. Figure 4.1 (below) is a map showing State Highway 1 and how its closure isolated Kaikōura.

Although the Christchurch and Kaikōura earthquakes were similar in disaster typology, the two disasters were vastly different events. Whereas, the Christchurch earthquake resulted in 185 deaths and severe structural damage to buildings and infrastructure, the Kaikōura earthquake resulted in two deaths and severe infrastructural damage to the road and rail networks with minor structural damage to buildings. Both earthquakes were seismically complex. A significant distinguishing characteristic between the damage caused by the two seismic events is that overland access to Kaikōura was significantly impeded; Kaikōura was essentially cut off; whereas, Christchurch was not.

### *Seismic complexity.*

Seismic complexities associated with the Kaikōura earthquake continue to perplex researchers. A preliminary seismological study conducted by Kaiser et al. (2017) provides many of the key facts, figures and findings contained in the following paragraphs. Surface ruptures were observed along a complex network of at least 20 separate faults, a world record according to GNS Science (n. d. c.). The fault ruptures occurred over a wide area spanning 180 kilometres of terrain and triggered the November 14, 2016, 7.8  $M_w$  Kaikōura earthquake. Peak ground acceleration exceeded 1.0g at both ends of numerous fault rupture locations and in some places exceeded 3.0g (Kaiser et al., 2017). Providing conceptual dimension to peak ground acceleration, Kalkan and Sevilgen (2011), from the United States Geological Survey state that the highest peak ground acceleration recorded during the 2011 earthquake in Tōhoku, Japan was 2.7g even though it was a much higher magnitude (9.0  $M_w$ ) earthquake than the 2016 Kaikōura earthquake.

Four aftershocks greater than 6.0  $M_w$  occurred within 14 hours of the main earthquake. Additionally, 170 aftershocks with magnitudes ranging from 4.1  $M_w$  to 6.5  $M_w$  and another 2,883 aftershocks with magnitudes higher than 1.6  $M_w$  were recorded within six days of the main earthquake. Surface deformations to the landscape were notable.

The dominant fault typology associated with the Kaikōura earthquake was an oblique thrust fault (horizontal and vertical movement) with a dextral slip (right lateral movement). The largest ground surface displacement measurements recorded were 10-12 metres (dextral) and 5-6 vertical metres. These measured displacements were validated by visibly displaced fences and roads. Additionally, exposed and decaying oceanic biota indicated coastal uplift ranging between 0.6 to 4.8 metres. The earthquake also generated a tidal surge.

### ***Tsunami.***

Seabed deformation caused by the 2016 Kaikōura earthquake generated a tsunami with run-up heights measuring five metres in some coastal areas. One home in Pigeon Bay was inundated by the tidal surge and was subsequently displaced from its foundation and suffered two collapsed walls. Tsunami damage to Kaikōura was mitigated by the earthquake-induced seabed uplift and relatively low tide. Whereas, Kaikōura was spared by the tidal surge, waves of debris from landslides were less sparing.

### ***Landslides.***

Tens of thousands of landslides triggered by the Kaikōura earthquake were reported by geologists and road construction companies. The landslides resulted in road network and rail network closures rendering Kaikōura inaccessible via overland routes. State Highway 1, the primary road artery connecting Kaikōura to Christchurch in the south and Picton to the north, remained completely closed for 11 days impeding disaster response efforts (Figure 4.1).

Thereafter, State Highway 1 was temporarily and intermittently reopened during daylight hours in December, 2016 but remained subject to closure due to seismic activity, additional landslides, road construction, and inclement weather. The single alternate overland route into Kaikōura, the Inland Kaikōura Road (formerly State Highway 70), was also closed due to scores of landslides.

Although convoys of public vehicles were allowed limited passage on November 25, 2016, the Inland Kaikōura Road remained closed to the public for one month until December 19, 2016 when it was permanently reopened (Fastier, 2016; Ministry of Transport, Market Economics, 2017).

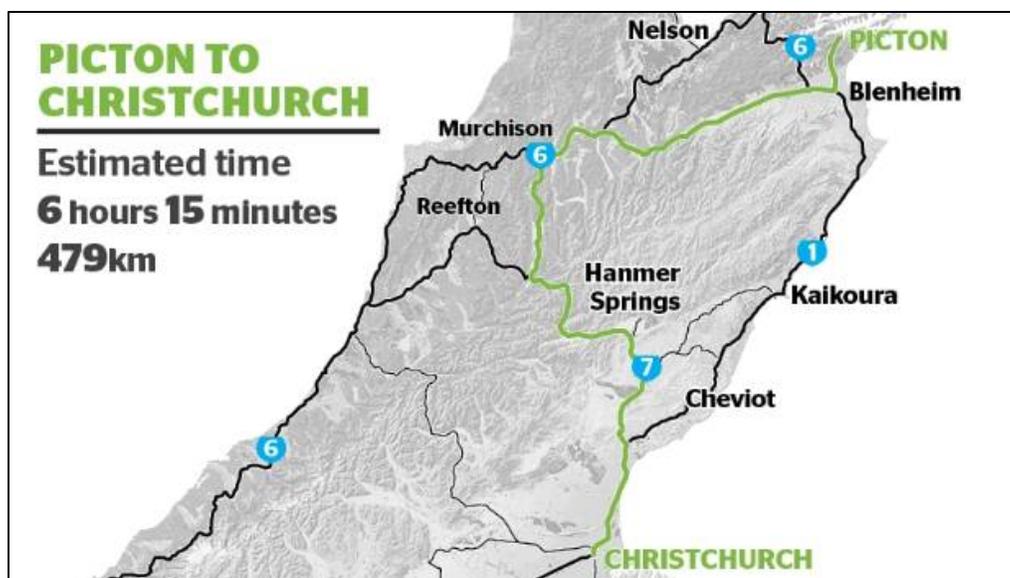


Figure 4.1. State Highway 1 Alternate map route from Picton to Christchurch. The green line represents the alternate route between Picton, Kaikōura and Christchurch. The black route is State Highway 1. Notice the added distance and travel time from Picton to Kaikōura due to the closure of State Highway 1 using the alternate route in green. Source: Harris, D. (2017, October). Ongoing closure of State Highway 1 costs trucking industry \$2.7 million a week. Fairfax Media. Retrieved from <https://www.stuff.co.nz/thepress/news/98>

After the initial and short-lived reopening in December, State Highway 1 was closed for 72 days (Hayward, 2017, May). The southern portion of State Highway 1 formally reopened to the public on June 2, 2017 and was accessible between the hours of 7:00AM – 6:00PM with the caveat that it could be subject to closure due to continuing vulnerabilities (Hayward, 2017, May). The northern section of State Highway 1 remained closed to the public from November 14, 2016 through December 15, 2017 (13 months), limited to daytime traffic thereafter (Hayward, 2017, November). According to a press release issued in 2018 by KiwiRail, the largest rail transport operator in New Zealand with freight, travel, interisland transport, and infrastructure business units throughout the country, after nearly two years, the iconic Coastal Pacific passenger train service resumed operations on December 1, 2018. Freight train service re-opened and closed sporadically for nearly 11 months after the earthquake until service was restored permanently in late October, 2017, according to Kilroy, (2017).

The Main North Rail Line is the railway connecting Kaikōura to Christchurch and Picton moving both freight and passengers riding on the Coastal Pacific train service. This rail line was severely damaged by landslides in the 2016 Kaikōura earthquake. Tunnels covered by landslide debris as well as displaced and/ or mangled track rendered the rail line inoperable from November 14, 2016 through September 15, 2017. One freight train successfully travelled from Picton to Christchurch on September 15, 2017 before the line was closed for another 10 days because of heavy rain (Hayward, 2017, October). The rail line reopened on September 25, 2017 but was closed again on October 14, 2017 due to heavy rainfall resulting in numerous landslides. Clearly, landslides caused massive damages to road and rail networks. However, less visible were the hidden perils lurking in the landslide inundated rivers and streams.

Landslide debris triggered by the Kaikōura earthquake flowed into rivers and created 190 natural river dams. The concern for communities downstream from these naturally-created dams is dam failure or breach during future seismic activity and/ or heavy rainfall. A future threat of flash debris floods to communities downstream caused by natural river dam breaches is an issue that will need to be addressed by emergency managers and geologists in the near future. Damage to buildings in Kaikōura was minor.

***Structural damage to buildings.***

The 2016 Kaikōura earthquake caused the collapse of one residential building. Structural damages caused by the earthquake to commercial buildings rendered 132 buildings unsafe for occupancy (as of December 2016). Predominantly, structural damages to buildings resulted from failing brick veneers attached to wood-frame structures and toppling masonry chimneys. Structural damages to buildings were not the issue in Kaikōura. More than anything else, the

closure of State Highway 1 profoundly and adversely impacted local Kaikōura businesses and the town's micro-economy.

***Economic impact.***

The cost to rebuild the damages to the infrastructure associated with the 2016 Kaikōura earthquake is estimated to be NZD \$3.8 billion according to Kaiser et al. (2017). The closure of State Highway 1 increased trucking freight costs by NZD \$2.7 million per week; a 15-20 percent increase associated with increased fuel, wage and maintenance costs that are often passed on to consumers (Harris, 2017; Hayward, 2017, November). Moreover, the road closure reduced annual tourism revenue in Kaikōura from January to September, 2017 by nearly NZD \$63 million; approximately 49 percent of the NZD \$125 million spent by tourists between January and November, 2016 (Harris, 2017; Hayward, 2017, November).

Landslides caused by the Kaikōura earthquake severely impeded overland access to Kaikōura. Economic activity in Kaikōura's hospitality and tourism sectors declined significantly while State Highway 1 was closed. During this period, some small-to-medium-sized enterprises in Kaikōura, especially in the trade and hospitality sectors, struggled to continue their operations for the first six months after the earthquake according to a technical report prepared for the Ministry of Transport (McDonald, G. W., Smith, N., Kim, J. H., and Harvey, E., 2017). However, some of the research participants that I interviewed struggled financially for longer than six months.

The post-disaster phase of an incident can be both physically and cognitively exhausting. Business financial records with calculations on known and projected small-to-medium-sized enterprise quarterly or fiscal earthquake-related revenue deficiencies, if any existed, were not made available during data collection. Government economic reports capture district-wide data

making it difficult to extrapolate data for individual towns, further complicated when attempting to isolate small-to-medium-sized enterprise economic data within larger data sets. However, the majority of Kaikōura small-to-medium-sized enterprises that I spoke with indicated that their trading revenues, when compared against the previous summer season, were lower by more than 60 percent; on average. Although the Christchurch and Kaikōura disasters were both caused by earthquakes, the two events had differentiating dynamics. Providing background on the two disaster events places the data collection in its appropriate post-disaster context. More importantly, the conveyance of facts, figures, and other pertinent data related to these two events is important toward providing dimension and depth to this post-disaster research.

### **Research Participants**

The research study protocol and research questions used in this research (Appendix C) were approved by the Human Ethics Committee at the University of Canterbury. Thirty semi-structured interviews of small-to-medium-sized enterprise owners and/ or managers recovering from two separate seismic disasters and separated by approximately five years and 90 kilometres provide two unique case study data sets; each set bound by location and time. One data set represents the post-disaster recovery of 12 small-to-medium-sized enterprises operating in Christchurch. The second data set represents the post-disaster recovery of 18 small-to-medium-sized enterprises operating in Kaikōura. Prior to commencing data collection, a sampling strategy for recruiting research participants was needed.

#### **Sampling strategy.**

A purposeful sampling strategy was adopted and implemented for this study. Snowball sampling was used as a secondary strategy toward obtaining referrals from existing research participants. Creswell (2013) supports the use of purposeful sampling in qualitative research

because it enables the researcher to target research subjects that “can purposefully inform an understanding of the research problem and central phenomenon in the study” (p. 156). Criterion sampling, a subset of purposeful sampling uses criteria selected by the researcher to purposefully target research participants that are most likely to be relevant toward answering the research question(s).

After carefully considering various options for research participant selection, the sampling method that seemed the most appropriate for this research and offered the most promise in terms of producing useable data was criterion sampling and was selected as the primary research participant selection strategy used for this study. Several factors influenced the decision to adopt criterion sampling as the primary strategy for recruiting research participants for this study. The first factor was that the participating organisation needed to be an operational, small-to-medium-sized enterprise, defined by New Zealand Ministry of Business, Innovation, and Employment (2016) as, an organisation with “fewer than 20 full time employee (FTE) staff members” (p. 23). Numerous definitions exist for small-to-medium-sized enterprises. Because no universal definition of small-to-medium-sized enterprise exists and since the foci of this study are organisations in New Zealand, adopting the Ministry of Business, Innovation & Employment definition of small-to-medium-sized enterprise was both logical and appropriate.

Originally, the second criterion was that the small-to-medium-sized enterprise had to have been actively trading prior to the 2011 Christchurch earthquake. This was later expanded to include organisations involved in the 2016 Kaikōura earthquake. The rationale behind this requirement was twofold. First, if a small-to-medium-sized enterprise did not exist prior to the earthquake, then their insights on how social capital is used toward the post-disaster recovery of small-to-medium-sized enterprises would be meaningless. Furthermore, the ability to locate and

contact the owners and/ or managers of organisations that closed as a result of the 2011 Christchurch earthquake for recruitment as research participants in this study would present many difficulties and challenges. After conducting a cost-benefit analysis regarding the costs in terms of time, effort and money compared to the potential benefits of interviewing the owners of defunct businesses that closed because of the 2011 Christchurch earthquake, a decision was made to target organisations that continued to trade after the disaster to gain insights on how they may have used their social capital toward their post-disaster recovery efforts. Moreover, even if the owners of closed businesses were located, the organisation would not satisfy the third criterion as it pertains to the post-disaster recovery requirement.

The third criterion was that the small-to-medium-sized enterprise was impacted by the incident and that it was actively in the recovery phase of the disaster. The first component of this criterion, that the small-to-medium-sized enterprise was impacted by the incident, was a logical requirement. For example, if a small-to-medium-sized enterprise was unaffected by the incident, that small-to-medium-sized enterprise would not satisfy the second component of the criterion because the small-to-medium-sized enterprise would not be in the recovery phase of the disaster. Furthermore, insights as to how the small-to-medium-sized enterprise used its social capital toward post-disaster recovery would be non-existent.

Initially, with small-to-medium-sized enterprises from Christchurch, memory decay was a concern due to the amount of elapsed time between the 2011 event and the time data was collected. Thus, to offset the potentiality of memory decay, data was collected from small-to-medium-sized enterprises that were actively involved in the recovery phase of the disaster. Elaborating further, it was presumed that data collected from small-to-medium-sized enterprises that were actively involved in their respective disaster recoveries would likely suffer less

memory decay related to their organisational post-disaster recovery than a small-to-medium-sized enterprise that was no longer actively involved in the recovery phase of the disaster.

The fourth and final criterion was that the principal(s) representing the participating small-to-medium-sized enterprise had to be either (1) the owner(s); or (2) the manager(s). To be sure, the preference was to interview the owner(s) of the participating organisation. Interviewing the owner(s) of the participating organisations was preferred because owners typically have exclusive decision-making authority for an organisation and are responsible for its social capital. Hence, interviewing the owners of organisations as to how they leveraged their social capital toward their respective post-disaster recoveries was more appropriate than interviewing subordinate managers and/ or employees. This premise was supported by nine interviews conducted as part of this research wherein the owners of the organisations were not available and managers were interviewed instead. Five of the nine managers interviewed as part of this research were knowledgeable enough about the organisation's operations to provide useful data related to their organisation's social capital. Yet, even in those examples, the data was limited only to what the managers knew. Conversely, four of the nine interviews with managers did not yield any useful data related to their organisation's social capital.

Perhaps most importantly and as mentioned earlier, the owner(s) of small-to-medium-sized enterprises are clearly authorized to participate in this research on behalf of their respective organisations. Conversely, an employee would need authorization from the small and medium-sized enterprise owner(s) to participate in the research; a seemingly unnecessary effort for the purpose of this research as discussed above and from my own experience with this research and in praxis as an employee of an emergency management organisation in the United States.

However, it was not always possible to interview the owner(s) and in such cases the manager was the research participant.

Nine interviews with organisational managers were conducted as part of this research, as mentioned earlier. Thus, the data collected during this research is, arguably, further triangulated by participant selection that included both organisational owners and managing employees. Unequivocally, richer data regarding how organisations leveraged their social capital toward their respective post-disaster recovery efforts was gleaned from owners than from managers.

The afore-mentioned specific criteria for selecting research participants for the two bounded data sets were rigidly adhered to throughout the research participant selection process. The integrity of this research in terms of consistent data collection methods is directly related to the quality of the data collected and the subsequent data analysis. Therefore, preserving the integrity of this research through the use of a consistent data collection method was paramount. Obtaining rich, useful data was an equally important driver for rigidly adhering to the criteria developed for selecting research participants. However, exceptions were made to include three organisations in this study that had more than 20 employees.

Exceptions were made (n=3) allowing three organisations with more than 20 employees to participate in the research. However, two of those participating organisations employing more than 20 employees do so seasonally during summer months when tourism is peaking. The third organisation with more than 20 employees was a parent organisation for numerous subsidiary organisations. The subsidiary organisations were destroyed in the 2011 Christchurch earthquake and the employees were forced to find employment elsewhere. Thus, at the time of the interview, this organisation had less than 20 employees. These exceptions allowed further triangulation of the data and provided a broader range of perspective elucidating differences (if any) between the

use of social capital in the post-disaster recovery by small-to-medium-sized enterprises and their counterpart organisations with more than 20 full-time employees.

***Research participant selection criteria and industry sector variation.***

The criteria for prospective research participants followed the criterion sampling scheme adopted for this study. The four criteria used to select research participants for this study include: (1) the participating organisation was an operational Christchurch or Kaikōura small-to-medium-sized enterprise; (2) the small-to-medium-sized enterprise was trading within the disaster location prior to the disaster; (3) the small-to-medium-sized enterprise was impacted by the disaster and is currently in the recovery phase of the disaster; and (4) the research participant is the owner and/ or manager of the participating small-to-medium-sized enterprise. All four criteria had to be met by prospective participating organisations to participate in this research with the exception of the three afore-mentioned organisations.

Sampling across organisational structure typologies and industry sectors further benefited this research. Cross-industry sector sampling acted as a form of data triangulation for research findings. Additionally, cross-industry sector sampling was useful toward assessing the research data saturation level. Admittedly, breadth in the cross-industry sector sampling is lacking in the areas of construction and other trades.

However, in defence of this decision, post-disaster literature indicates that organisations involved in rebuilding after disasters, such as construction and other trades, experience an increase in trade during this period (Cairns, 2012; CityMetric, 2014). Notwithstanding the sampling breadth shortcoming related to construction organisations, research participant diversity resulting from the implementation of a purposeful, cross-industry sampling strategy

bore rich data sets. Research participant industry sectors and governance structures are listed below in Table 4.1.

**Table 4.1. Research participant industry sectors and organisational structures.**

<b>INDUSTRY SECTOR (KAIKŌURA ORGS.)</b>	<b>GOVERNANCE STRUCTURE</b>
Food and/ or Beverages	Limited
Food and/ or Beverages	Limited
Retail	Franchise / Co-Op
Retail	Limited
Tourism	Limited / Partnership
Tourism	Partnership
Lodging	Limited
Tourism	Partnership
Retail	Limited
Food and/or Beverages	Franchise / Limited
Food and/ or Beverages	Limited
Retail	Limited
Handmade Retail	Limited
Food and/ or Beverages	Sole-Trader
Lodging	Sole-Trader
Lodging	Sole-Trader
Retail	Limited
Hospitality	Sole
<b>INDUSTRY SECTOR (CHRISTCHURCH ORGS.)</b>	<b>GOVERNANCE STRUCTURE</b>
Service and sales	Limited
Service and sales	Limited
Engineering and/ or Construction	Limited
Specialty Retail	Limited
Food and/ or Beverages	Limited
Retail	Limited
Lodging	Limited
Food and/ or Beverages	Limited
Development / Hospitality	Limited
Trade / Advocacy Group	Partnership
Food and/ or Beverages	Limited
Charitable organisation	Limited

***Recruitment of research participants.***

When a prospective research participant had been identified; for example, through newspaper articles; referrals; or through merely walking in and speaking with managers and/ or business owners in disaster areas about this research, an attempt to contact the prospective research participant was made by telephone and/ or email. After formal introductions were exchanged, a cursory explanation of the research topic was provided verbally and/ or in writing via email followed by a request for the prospective research participant to participate in the research. Upon acceptance as a research participant, an interview date and time were mutually agreed upon and another email was sent to confirm the date, time, and location of the interview. Attached to the confirmation email were two documents: (1) a research consent form (Appendix A) that all participants signed; and (2) an information sheet (Appendix B) that provided the research participant with information about the research.

Research participants taking part in this research via telephone interview were asked to print, sign and return their consent forms prior to the telephone interview. Alternatively, if the interview was face-to-face, the consent form was signed at the time and location of the interview. A majority of interviews with Christchurch small-to-medium-sized enterprises were conducted onsite at the business offices of the participating small-to-medium-sized enterprise. Signed consent forms from telephone interviews were received by post; or as scanned word or photo attachments to email.

Criterion and snowball sampling netted 12 participating small-to-medium-sized enterprises from Christchurch. Nine of the participating Christchurch small-to-medium-sized enterprises were contacted directly by the researcher; two were referrals from my primary supervisor, and one was a snowball referral. All interviews with participating organisations from

Christchurch were conducted face-to-face. Similarly, initial contact with 15 of the participating small-to-medium-sized enterprises in Kaikōura was made directly through email or telephone; three were snowball referrals. Eleven interviews with organisations in Kaikōura were conducted by telephone; seven were conducted face-to-face. A comprehensive case study protocol containing a prototype interview guide was created for this study.

### **Creating the case study protocol.**

A case study protocol (Appendix C) was designed specifically for this research. The case study protocol is important for researchers conducting multiple-case studies. One of the most important functions of the research protocol according to Yin (2014), is to standardize the “. . . agenda for the researcher’s line of inquiry” adding, “The protocol is a major way of increasing the reliability of case study research and is intended to guide the researcher in carrying out the data collection . . .” (p. 84). The protocol facilitates research consistency between the units of analysis (the cases) in terms of the methods, the processes, and the questions presented to the participants. This consistency helps control for bias, fatigue, researcher memory shortcomings, ethical considerations and disclosures related to human subject research, and potential difficulties a researcher might encounter when conducting a multiple-case study. Nested within the case study protocol are the original case study questions that served as the interview guide.

### ***Semi-structured case study questions (interview guide).***

Case study questions developed for this research guided the research interviews. While developing the case study questions, I was cognizant that my professional and academic and professional backgrounds in disaster recovery and business continuity planning might result in preconceptions. Therefore, every effort was made to remain objective regarding the line of questioning and analysis of the data. However, abandoning my own professional and academic

background and experience while also ignoring extant literature on social capital; in essence, entering this research *tabula rasa*, would be difficult and counterproductive, likely yielding less rich data. Therefore, research questions were crafted purposefully enough to obtain answers to specific questions while allowing participants to embellish or to allow follow-up and/ or secondary lines of questioning. The original interview questions provided the necessary structural framework for the interviews to proceed while simultaneously maintaining enough flexibility required for the research questions to evolve during the three initial pilot interviews.

Original case study questions evolved slightly through the first three pilot interviews. During these initial pilot interviews (n=3) some questions and/ or sections were added and/ or deleted and the order of sections were re-arranged from their initial design. However, the essence of the lines of inquiry remained intact. The final version of categorised case study questions adopted and implemented throughout the remaining 27 interviews of research participants from both Christchurch and Kaikōura, were organised along four topical sections of inquiry: (1) the impact of the disaster to the participating organisation; (2) if and how social capital was leveraged toward their post-disaster recovery efforts; (3) trust as it relates to inter-organisational relationships, toward government at the local and national levels, and toward insurance companies; and (4) business continuity planning. Demographic data were also captured through interview questions.

Over seven years of experience working with disaster survivors as a representative of the United States Small Business Administration, Office of Disaster Assistance revealed that many people not only want but *need* to share their stories as a form of catharsis. My role as an ethical researcher and in recognition of my responsibility to protect research participants from potential emotional trauma resulting from my research and/ or the interview questions required that

research participants to be constantly monitored during the interview for signs of emotional distress or trauma. Corbin and Morse (2003), commenting on the risks associated with establishing “trust and conversational intimacy” with interviewees assert that, “It is this very essence of trust and conversational intimacy that creates both the potential threats associated with unstructured interactive interviews and at the same time makes them potentially therapeutic as well as essential as data collection tools” (p. 338). Hence, the research interviews in this study commenced with the same two or three informal starter questions to ease research participants into the interview process. The first three research interviews were pilots for the remaining research interviews and helped shape the semi-structured research questions and rapport building techniques through an informal conversationally intimate approach (Corbin & Morse, 2003). Responses by research participants to the starter questions provided talking points for additional rapport-building follow-up questions that were more nuanced to the research participant being interviewed.

These initial questions were intentionally worded for simplicity, toward rapport-building with participants and toward setting the tone for the interviews. Corbin and Morse (2003) indicate that these types of preliminary research questions serve to “establish what will be studied” referring to them as “grand tour” questions (p. 339); in homage to Spradley (1979). Ultimately, my objective was to build trust and to create a comfortable experience for the research participant. Though the opening questions were not always presented to the participants verbatim as listed below, the essence of the questions was not lost, the objectives were accomplished and rich data was captured. Thus, conversations with research participants commenced with some variation of the three starter questions listed below:

- 1) Can you tell me about your business and what you do?

- 2) How did the earthquake impact the business?
- 3) How did the business respond to the challenges presented by the disaster?

The remaining sets of questions were slightly more structured than the initial three questions and more directly addressed the topic(s) being studied. Although a framework existed through the use of the case study questions to ensure core questions were presented to all of the research participants for the purpose of research consistency, responses from research participants opened new lines of inquiry at times. Under such circumstances, the new line(s) of inquiry were explored after which the interview was redirected toward the core questions of the research. Early in the data collection process it was evident that some of the interview questions were unnecessary and/ or irrelevant such as some of the business continuity planning questions and were henceforth, eliminated as case study questions. For example, initially, there were a series of questions regarding whether or not research participants thought that having a memorandum of understanding with another business operating in the same industry sector and integrated into their respective business continuity plans was viable. However, the vast majority of research participants did not have business continuity plans. Thus, there was no need to pursue the line of questioning on that topic.

### **Data Collection and Storage**

Data collection commenced with two research participant referrals and a local business contact I cultivated; all in Christchurch. These first three interviews were more than data sources; they also served as the pilot interviews for the study. Interview processes and/ or questions were amended, added and/ or deleted subsequent to a review of the pilot interviews. Ultimately, the result was consistency and a streamlining of the interview process. Initial contact with the remaining research participants was made after the criteria for selection were met.

Interviews were recorded using a digital voice recorder with the expressed written and verbal consent of each research participant. The recordings were later used by the researcher to transcribe (verbatim) and code the research interviews. At the conclusion of each interview, participants were asked if they would like to add any comments. Participants were then advised as to the next steps in the research process, the transcription of the interview from the audio recording and the participant's review and approval of the transcript. Participants were also advised that the research is anonymous facilitated through the use of pseudonyms. Participants were encouraged to choose their own pseudonyms. Approximately half of the participants chose their own pseudonyms; whereas, other participants elected to have their pseudonyms researcher-assigned. Post-interview memos were drafted immediately following each interview for the purpose of recording key thoughts; first impressions; themes; and ideas related to the interview, the participant, the organisation, and/ or participant responses.

#### **Memoranda and correspondence.**

Memos were written during and after each interview from notes that were taken during the interview to record details related to research participants and to reflect on emergent interview themes. Immediately after each interview, a memo, based on researcher interview notes, was drafted and incorporated into a master chronology of memoranda maintained throughout this research; similar to a journal. Research participants were not provided copies of memoranda. Instead, research participants were sent a thank you email after their interview. Within the body of the thank you email was an internet link (URL) to a business continuity planning resource library (Appendix C). The business continuity planning resource library was created as a gesture of gratitude to research participants by the researcher. Transcription of the digitally-recorded interviews was the next step after conducting each interview.

### **Interview transcription.**

Outsourcing transcription to a third party service provider was considered. Yet, prior to the commencement of the first interview, I resolved to transcribe my own interview recordings. Predominant reasons for this decision were: (1) quality control over the transcriptions; and (2) the belief that the transcription of the research interviews can provide an unparalleled degree of data intimacy to a researcher provided the researcher transcribes their own interviews. Decidedly, having a high degree of data intimacy would be invaluable during the coding process. Additionally, by transcribing the interviews myself, I could simultaneously conduct a type of first-cycle coding and identify emerging themes and concepts. Therefore, all of the interviews were researcher-transcribed; verbatim. Transcription of more than 28 hours of digital audio recordings from 30 interviews produced 770 pages of interview transcriptions containing 230,118 words.

After an interview was transcribed it was forwarded to the research participant for review and verification, a process called *member checking* (Saldaña, 2016). Additions, deletions and/ or changes occurred during the review period if the research participant indicated a desire or need. From the 30 interviews conducted, one interview required minor amending as directed by the research participant. Once the revision period elapsed (20 days), the transcript became part of the permanent research record. All materials and data related to research participants needed to be secured to protect the identities of the participants in accordance with university ethical requirements.

### **Data storage.**

Research ethics requires researchers to protect the confidentiality of their research participants and to secure any material that might jeopardize a research participant's right to and

expectation of confidentiality. In compliance with university policy and research ethics, all material and data identifying research participants including transcripts, consent forms, correspondence, pseudonyms, audio recordings, and spreadsheets were stored on a password-protected personal laptop computer and backed up to external memory devices for posterity. Files were backed up to an external personal hard-drive and an external personal USB flash drive as mitigation against data loss. All three devices (laptop, external hard-drive and USB flash drive) were stored in a locked room within the personal residence of the researcher; inaccessible to anyone other than the researcher. Hard copies of consent forms were stored in a binder within a locked filing cabinet within the same locked room at the personal residence of the researcher. Pseudonyms used to protect research participant identities were and continue to be housed within a password-protected database capturing research participant data and demographics.

### **Chapter Summary**

This chapter began by providing a contextual background for this research and the two disaster event backdrops. The data collection process section disclosed research participant selection criteria and the sampling strategy adopted for this study. The research participant recruitment and interview processes were described from the initial contact with a prospective research participant through the review of the transcribed interview by research participants. The research netted a total of 30 research participants. Twelve small-to-medium-sized enterprises from Christchurch and 18 small-to-medium-sized enterprises from Kaikōura with varying business structures and industry sectors were selected to participate in this study using the selection criteria and sampling strategy outlined in this chapter.

The bounded data sets of this research, the participating small-to-medium-sized enterprises from Christchurch and Kaikōura, are innately pre-disposed for comparative analysis.

Shared and differential attributes contribute to this predisposition. Characteristics shared by small-to-medium-sized enterprises from both data sets include: (1) small-to-medium-sized enterprises in the post-disaster recovery phases of disasters; (2) disaster typology (large earthquakes); and (3) small-to-medium-sized enterprises located in New Zealand. Attributes differentiating the small-to-medium-sized enterprise data sets include: (1) time (almost five years elapsed between the two disasters); (2) community size (Christchurch is large; whereas, Kaikōura is small); and (3) remoteness (Christchurch had numerous viable post-disaster access modes and routes; whereas, Kaikōura, remotely isolated, was cut off). The next chapter analyses the data that was collected.

# CHAPTER 5

## DATA ANALYSIS

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## Chapter 5 - Data Analysis

### Overview

The preceding chapter revealed the research participant selection criteria, sampling strategies, interview processes, and data collection methods and strategies. The chapter concluded with a discussion on the interview transcription and verification processes, and research data storage. This chapter provides a detailed accounting and discussion of the analytical processes applied to the research data that was collected as part of this study.

Data can be noisy. More importantly, not all data that is captured is relevant toward answering a research question(s). Challenges separating the noise from the relevant data are magnified when the amount of collected data is large; more data, more noise. With the vast amount of data collected from research participants during interviews, a system was developed specific to this research to separate and compartmentalise the data without discard. In its unrefined state, the data that was captured from the research interviews was a mixture of many types of data. A filtration and distillation process was needed to purify and concentrate the data. That filtration and distillation process was the data coding process adopted for this study.

The data coding process that was implemented for this research was analogous to a multi-stage water filtration system. For example, the data coding schemes (water filtration system) captured and categorised the data (particulates in the water) through a series of data coding cycles (water filters) removing and/ or compartmentalizing noisy data (impurities) from the relevant data (water). Filtering the research data using a multi-cycle data coding process produced rich, purified and compartmentalized data sets that could be more readily analysed for thematic identification. As the collected research data became increasingly purified through the multiple-cycle data coding process, rich discernible patterns emerged.

One such rich pattern distilled from the data coding process shows that research participants received a significant amount of tangible disaster recovery assistance from individuals and/ or organisations with whom they were not acquainted or otherwise very loosely acquainted. Using the bridging, bonding, linking model social capital, these sources of disaster recovery assistance were first categorised under the bridging typology. Yet, the bridging category of social capital was inaccurate; its quintessential element – the bridge – was missing. A categorical gap was thusly revealed in the bonding, bridging, linking social capital model.

### **Steps in Data Analysis**

Grounded theory methods were used to analyse the data (Charmaz, 2008). To summarise, data analysis consisted of three cycles of data coding (*initial*, *axial* and *theoretical*), analytic and reflective memoranda writing, code mapping, diagramming, and continuous comparative data analysis. Multiple iterations of data coding occurred during some data coding cycles.

Two iterations of first cycle data coding were conducted. The first iteration employed *provisional* and *attribute coding*; the second, *structural* and *in vivo coding* (Charmaz, 2008; Saldaña, 2016). During the second cycle of data coding, an *axial coding* method (Strauss & Corbin, 1998) coupled with *magnitude* sub-coding (Saldaña, 2016) was applied to the data with the aim of: (1) identifying the dominant categories and/ or sub-categories in the research data; and (2) identifying dimensional attributes of those categories and/ or sub-categories. Finally, a *theoretical coding* method was applied to the data in the third cycle of data coding (Saldaña, 2016; Strauss & Corbin, 1998). Data from the research interviews was supplemented by other data sources such as researcher-generated memoranda.

Analytic and reflective memoranda complemented data captured from the research interviews. Memoranda were particularly helpful during the data coding process and served as a

repository for researcher reflections related to the research process. Reflective and analytical memoranda documented emerging research themes and/ or concepts; data coding processes, ideas, concerns, and/ or thoughts; researcher-generated conceptual and/ or thematic diagrammatical creations; suggestions from supervisors; and general researcher thoughts. These memoranda proved invaluable regarding decisions related to first and second cycle data coding as did the three pilot research interviews.

The importance of the first three pilot research interviews cannot be understated. Not only did the pilot interviews help hone the semi-structured interview questions that were used in subsequent interviews with research participants from both Christchurch and Kaikōura. The pilots also aided in the identification and selection of data analysis methods that were best suited for this research. They also helped with the development of a strategic, purposeful file management system protocol for the coded interview transcripts.

Data analysis processes that were employed during this research are presented herein, *linearly*, as a matter of reader convention. Realistically, data analysis occurred neither linearly nor neatly. As a novice qualitative researcher, data coding was a messy undertaking during the early stages of first cycle coding. Repetition through multiple coding iterations that were applied to the 30 interview transcripts during first cycle data coding ritualised the data coding process and profoundly improved data coding efficiency while simultaneously increasing researcher confidence and coding proficiencies.

### **First Cycle Data Coding**

*Initial* coding that was conducted during the first cycle of data analysis consisted of a combination of *provisional*, *attribute*, *structural*, *process*, and *in vivo coding* methods (Saldaña, 2016). Two iterations of first cycle data analyses were conducted dividing the coding methods

between the two coding iterations. The first iteration employed *provisional*, *attribute*, and *structural coding* methods to the data; the second iteration applied *process* and *in vivo coding*.

Toward protecting the integrity of the original interview transcript files, prior to the commencement of interview transcript coding, the original transcript files (*masters*) were saved and identical copies were also saved. A uniform file saving format was implemented to distinguish the original transcript files from the numerous duplicated versions that were used during the data coding cycles. The uniform file saving format featured file suffixes specific to the transcript and its correlative coding cycle. For example, interview transcripts used for first cycle coding were saved with the following format: [ORGANISATION NAME – INTERVIEW TRANSCRIPT\_CODING 1].

Implemented as a file management system, the process of copying and saving interview transcript files using coding cycle identifier suffixes in file names was repeated throughout the data coding process. Separate file folders based on the coding cycle (first, second, and third) were created to compartmentalise and house the numerous saved and codified interview transcripts. Once the original transcript file was saved and copied using the CODING 1 suffix, the first iteration of first cycle coding, *provisional coding*, commenced.

### **Provisional coding.**

A code book created prior to conducting the first research interview contained three a priori codes, referred to in Saldaña (2016) as *provisional codes*. These *provisional codes* were thematically and broadly related to the research and focused on three themes: social capital, business continuity planning, and trust. Two *provisional codes* featured *magnitude sub-codes*: one related to social capital; the other to trust. The third *provisional code*, a binary-type code (yes/no), was related to business continuity planning. Thirty (30) research interviews generated

an enormous amount of data. Yet, not all of the data was relevant to the research undertaken in this study.

**Attribute coding.**

Once transcribed, the 30 research interviews produced 770 pages containing 230,118 words of transcribed raw data. The enormity of the data that was collected required a word count reduction strategy. *Attribute coding* offered a method wherein the demographic data collected during the research interviews could be codified, categorised, and/ or otherwise captured while simultaneously reducing the data volume for subsequent data coding cycles.

*Attribute codes* were applied to relevant interview transcript data and then categorised within a Microsoft Excel spreadsheet. The *attribute codes* categorised research participant’s demographic data including: city, industry sector, organisational structure, and number of employees. Examples of *attribute codes* that were applied to the data from an interview with Thomas (pseudonym), the owner of Hearth (pseudonym), are excerpted in Table 5.1, below.

**Table 5.1. Attribute coding examples.**

HEARTH-INTERVIEW TRANSCRIPT_CODING 1	
<b>Interviewer:</b>	
And what year was the company established?	
<b>Participant:</b>	
2010.	[Attribute]
<b>Interviewer:</b>	
Corporation, limited liability, sole-trader?	
<b>Participant:</b>	
Limited liability.	[Attribute]
<b>Interviewer:</b>	
OK . . . and how many employees?	
<b>Participant:</b>	
Well, primarily the two of us. Sometimes we have another manager through the year.	[Attribute]

Other personally or organisationally identifiable information including research participant phone numbers, physical and email addresses and research participant pseudonyms were captured but not coded. Once the data was extracted from the transcript, codified and entered into the research participant master spreadsheet, the data was then redacted from the CODING 1 interview transcript as a reductionist approach toward managing the large volume of data that remained to be codified.

Some data transcribed from the research interview recordings was irrelevant to the research. For example, conversations about the weather, sports and/ or current events were irrelevant to this research. Such data was also redacted from the CODING 1 interview transcripts. Accordingly, Saldaña (2016) asserts that, “. . . coding can be reserved for those portions of the corpus that are deemed ‘relevant text’ to the study” (p. 80). The semi-structured interview questions used to guide the research interviews also guided *structural coding*.

### **Structural coding.**

The strength of *structural coding* is in its utility in collecting, indexing and/ or categorising data and themes for the purpose of more thorough analysis during subsequent coding. Saldaña (2016) suggests that *structural coding* is most appropriate for coding interview transcripts and advocates for its use for “multiple participants, standardized or semi-standardized data-gathering protocols, hypothesis testing, or exploratory investigations . . .” (p. 98). Data coding that was performed on the three pilot interview transcripts generated 13 *structural codes*. The second iteration of first cycle data coding was applied to the data using *in vivo* and *process coding* methods.

### Process coding.

*Process coding* is characterised by the use of gerunds (words made from verbs ending with *ing* that operate as nouns). According to Saldaña (2106), *process codes* symbolise “action in the data” and are particularly useful in ferreting out human “routines and rituals” (p. 111).

*Process codes* applied to the data in this research helped uncover psychological elements that potentially influence higher order data categories and/ or codes. An excerpt from first cycle data coding as applied to one of the pilot interview transcripts using *process* and *structural codes* is shown below (Table 5.2). *In vivo coding* was another coding layer applied to the interview transcript data during first cycle data coding.

**Table 5.2. Examples of process and structural coding from pilot interview transcript.**

<b>CHEESE FACTORY-INTERVIEW TRANSCRIPT_CODING 1</b>	
<b>Participant:</b>	
Most <sup>10</sup> <b>businesses were affected</b> in terms of trade you know because the <sup>10</sup> <b>trade went down</b> . So, there was very little income.	<sup>10</sup> <b>Trading adversely affected</b> [process]
<b>Interviewer:</b>	
Did you have to lay off staff?	
<b>Participant:</b>	
Well there was – no – because only, uh, family. So it was; it was us. So all you do is you work without pay. There is no other staff. If you had staff, they would be the first one. So, the <sup>11</sup> <b>government</b> said, “Right we’ll give you some <sup>12</sup> <b>wages subsidy</b> to keep you going.” So, <sup>13</sup> <b>I filled out all the forms and everything. It was quite a nightmare actually going through that</b> and they were asking for all the details and so on so we submitted the things. They gave us a subsidy for just one month and then that lasted for only four weeks. It was quite a small amount of money. Then what the government said that <sup>14</sup> <b>“if you want to carry on doing with extra subsidy, you had to reapply again.”</b>	<sup>11</sup> <b>Government Assistance (GA)</b> [Structural] <sup>12</sup> <b>Wage subsidy</b> [GA sub-code] <sup>13</sup> <b>Filling out government claim forms</b> [process/GA sub-code] <sup>14</sup> <b>Reapplying for government assistance</b> [process/GA sub-code]

### In vivo coding.

The fifth coding method employed and layered into the first cycle data coding stack was *in vivo coding*. Constructed verbatim from the words and/ or phrases communicated by research participants during research interviews, *in vivo coding* captures and preserves research

participant experiential meanings categorically, conceptually, and/ or thematically. Although line-by-line *in vivo coding* is advocated by some authors, particularly grounded theorists, Saldaña (2016) advises researchers to “take the ‘code line-by-line’ recommendation . . . with a grain of salt” and to “Code as a ‘lumper,’ not a ‘splitter’” (p. 79). In other words, code larger amounts of data such as entire paragraphs instead of individual lines in interview transcripts.

Table 5.3 (below) contains an excerpt taken from the interview transcript of the same pilot interview referenced above in Table 5.2. The coding reflected in Table 5.3 depicts the simultaneous application of three different data coding schemes to the data. First cycle data analysis using the various coding methods outlined thus far was supplemented with analytic and reflective memoranda.

**Table 5.3. Provisional, structural and in vivo coding methods applied during first cycle data coding.**

<b>CHEESE FACTORY-INTERVIEW TRANSCRIPT_CODING 1</b>	
<b>Interviewer:</b>	
Did your business have relationships with other businesses at the time? Did they help you at all?	
<b>Participant:</b>	
No, because everybody was in on their own. And because <sup>9</sup> <u>we had family and friends</u> they were the ones who were [assisting] us. And like I said, the structural engineer that came to me because he was a friend – I knew him from so many years and I had not with him before <u>Because he considered me as a friend – that’s why he came to help me and giving me advice. And that was advice at no cost at that time.</u>	<b>Social Capital (SC)</b> [provisional/structural] <sup>9</sup> “we had family and friends” [In Vivo]

### **Non-Coding Methods of Data Analysis**

Data coding methods applied to collected research data, in this case the interview transcripts, helps researchers organise data while also ferreting out dominant data patterns, concepts, and/ or themes. Supplementing the data coding methods and processes that were employed in this study were other data analysis tools including analytic and reflective memoranda; code mapping; sketching, doodling and diagramming; and data theming (Charmaz,

2008; Saldaña, 2016). Code mapping, diagramming and data theming gave tangible forms to early conceptual and/ or thematic abstractions. However, it was through drafting analytical and reflective memoranda that abstract concepts and/ or themes from the data were given their form.

**Analytic and reflective memoranda.**

Researcher-generated reflective and/ or analytic memoranda drafted immediately after each research interview and throughout this study influenced and complemented the data analysis process. A digital journal was kept throughout this study to record post-interview researcher reflections; coding processes and decisions; network and/ or process diagrams; emerging research themes and/ or patterns; and analytic memoranda. Saldaña (2016) asserts that, “Codes and categories are found not just in the margins or headings of interview transcripts and field notes – they are also embedded *within* analytic memos” (p. 54). The following excerpts from two analytical memos (Figures 5.1 and 5.2) and two reflective memos (Figures 5.3 and 5.4) used in this study exemplify the importance of memoranda writing. One analytic memorandum was drafted prior to commencement of first cycle data coding (Fig. 5.1); the other was drafted after the third research interview (Fig. 5.2).

26/7/17	<p style="text-align: center;"><b>Analytic Memoranda</b></p> <p>I'm thinking about my coding strategy and I think I should write down what my <i>a priori codes</i> are prior to commencing transcription of the interviews. I also think I should keep my a priori codes and my emergent codes separated.</p> <p>After creating the initial code book and then creating a spreadsheet in Excel based on the initial code book, I began to enter data from my first interview and realised that there were sub-codes within the larger abstract codes that should also be recorded. Therefore, included within the categories <i>magnitude of damages, speed of recovery</i> and <i>scale of recovery</i> are the sub-categories: <i>physical</i> and <i>financial</i>.</p>
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**Figure 5.1. Excerpt from analytic memo related to provisional codes.**

31/7/17	<p style="text-align: center;"><b>Analytic Memoranda</b></p> <p>My codebook is expanding after just three interviews and I'm not sure I'm capturing correctly. It's a bit messy but I'm going to keep on coding. Since I am adding codes, I will need to do at least one more round of coding to ensure that all of the codes have been evenly applied to all of the cases when applicable. I am listing the newly added codes below and will also either add them to my existing Excel spreadsheet or create a new one – whichever seems easiest. An updated list of codes was anticipated.</p> <p>As a side note, somehow, something feels like its missing in my research or in the data catch but maybe</p>
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that's normal at this stage. I also can't help but wonder if the reason something feels missing – though I'm not sure what is missing – is perhaps because I am not asking the correct questions. That is a daunting thought. The horror from this thought is forcing me to revisit my research purpose and questions to search for gaps in my interview questions or areas where I can improve the line of questioning to get exactly the information that will be helpful in understanding this research phenomenon better.

**Figure 5.2. Excerpt from analytic memo drafted during the early phase of data collection.**

The two reflective memoranda excerpted below recorded researcher thoughts and ideas related to the research. The first reflective memorandum (Fig. 5.3) recorded researcher thoughts on the efficacy of social capital as a post-disaster business recovery resource. The second memorandum (Fig. 5.4) is akin to a diary or journal entry reflective of the researcher's thoughts after completion of the first cycle of coding. Researcher-generated models, diagrams and code maps helped visualise and conceptualise emergent concepts, themes and/ or processes.

14/8/17 **Reflective Memoranda**  
I began thinking about the Kaikōura earthquake and how insular the businesses seem to be there – they are not really helping one another. Yet, when a disaster affects the entire business community, can anyone really help much? After all, they are all in a similar conundrum. Added to the fact that they are all in the same situation, the issue in Kaikōura is access. That is, the road closures have impacted the businesses in Kaikōura perhaps more than the damage associated with the earthquake. At least for many businesses that did not suffer significant physical damages. There is nothing that high levels of social capital can do about the access issue. Hence, social capital may not play as significant a role in terms of recovery for Kaikōura businesses affected by this event as it may play in an event that is less wide-spread and that does not have the added issue of road access problems that has reduced the tourist traffic to Kaikōura. This IS the main issue for Kaikōura and I do not believe that high levels of social capital will have much influence because again, it is the road closures that are hindering the return to normalcy for businesses there as well as the overall community, which relies heavily on tourism.

**Figure 5.3. Excerpt from reflective memo regarding effect of road closure on Kaikōura businesses.**

6/10/17 **Reflective Memoranda**  
First cycle coding felt like a “getting to know the data better” round. It helped me formulate some ideas about the code names and descriptions I'll be using for the data. First cycle coding also helped me better recognise the value of multiple coding cycles. As I coded each interview, the code list grew and grew far beyond the provisional codes I began with. Emergent codes have led to emerging themes. Each cycle of data analysis and coding pierces the concealing foggy veil surrounding the research data toward increasing conceptual clarity. I may rename some of the codes to better reflect their purpose during the second round of coding. I should also identify similarities among the codes as well as major themes and/ or categories. Sub-codes should be used.  
  
Doing my own transcribing definitely helped me become familiar with each participant and their individual disaster recovery trajectories. It's not difficult to identify both the similarities and differences between the Christchurch and Kaikōura earthquakes.

**Figure 5.4. Excerpt taken from reflective memo regarding first cycle data coding.**

### Code mapping.

Code mapping, cited in Saldaña (2016), is a method for “organising and assembling” codes generated during first cycle data analysis “. . . into a selected list of categories, and then condensed further into the study’s central themes or concepts” (p. 218). During the early stages of data analysis in concert with the memoranda writing and continuous comparative analysis of the collected data, codes were generated and added to an initial code book. Repeated iterations of the coding and categorisation of the data during first and second cycle data analysis resulted in the reorganisation and/ or renaming of data categories and/ or codes. Data categories and codes were mapped in outline format as a visual aid to provide a holistic view of the data categories, codes and emergent themes. Table 5.4 (below) is a map of the first cycle data coding categories.

**Table 5.4. First cycle data analysis code map.**

Category/Code Name	Description
<b>ASSISTANCE RECEIVED</b>	<b>General Category</b>
BRIDGED OTHERS	Assistance received from bridged individuals or organisations that were introduced after or during the event by other network members that provided assistance.
CIVIC ASSOCIATIONS	Assistance received from civic associations during or after the event.
CUSTOMERS	Assistance received from customers.
EMPLOYEES	Assistance received from employees during or after the event.
FAMILY	Assistance received from family members during or after the event.
FRIENDS	Assistance received from friends during or after the event.
GOVERNMENT	Assistance received from government during or after the event.
INSURANCE	Assistance received from insurance.
NEIGHBOURS	Assistance provided by business neighbours after or during the event.
OTHER BUSINESSES	Assistance received from other business organisations after or during the

Category/Code Name	Description
	event.
SUPPLIERS/ VENDORS	General category for assistance provided by vendors, suppliers, head offices, and franchisors.
RELIGIOUS GROUPS	Assistance received from religious groups after or during the event.
VOLUNTEERS	General category for assistance received from any volunteers during or after the event.
DONATIONS	Assistance received through donations
TRADE/PROF. ASSOC.	Assistance received from Trade and/ or Professional Associations
<b>ASSISTANCE - PROVIDED</b>	Any assistance provided by the organisation to other individuals or organisations during and after the event.
<b>COMMUNITY</b>	General category for participant community orientation
<b>DAMAGES</b>	General category for all things related to damage of the business structure, inventory, supplies and/ or equipment.
<b>ECONOMIC IMPACT</b>	General category for the economic impact the event had upon the organisation. Impacts are usually negative but for some businesses the economic impact may be positive.
<b>INSURANCE COMPANIES</b>	General category for insurance.
<b>RECOVERY BARRIERS</b>	General category for barriers to recovery.
ACCESS TO PREMISES	Inability to access business premises.
COMMUNICATIONS	Communications problems (telephone, internet, postal).
DAMAGE SCALE	Scale of damage too large.
FEAR (TOURISTS)	Tourist post-quake fear(s) of the area.
ROAD NETWORKS	Road networks inaccessible.
<b>BUSINESS CONTINUITY PLANS</b>	General category for business continuity planning.
<b>INNOVATIVE THINKING</b>	General category for creative and innovative approaches to recovery.

Category/Code Name	Description
<b>CIVIC ASSOCIATIONS</b>	General category for participation or membership in civic associations and other types of groups.
<b>CUSTOMER LOYALTY</b>	General category for issues relating to customer loyalty.
<b>MORAL SUPPORT</b>	General category for moral support; empathy; sympathy; and other non-tangible, emotionally-based types of support.
<b>RELATIONS CREATIONS</b>	How organisations create and maintain relationships with other businesses and individuals.
<b>SOCIAL MEDIA</b>	General category for the participants' use of social media.
<b>TRUST</b>	General category for trust.
BANKS	General category for trust in the banking industry.
BUILDING	General category for building trust.
GENERAL	Overall trust levels towards other people and organisations.
INSURANCE	General category for things related to the trust an insured has for their insurance companies or the industry at large.
LOCAL GOV'T	General category for participant's trust in local government; particularly with respect to the response and/ or recovery effort(s).
NATIONAL GOV'T	General category for the participant's trust in national government; particularly with respect to the response and/ or recovery effort(s).
PROFESSIONALS	General category for participant's trust professionals such as accountants and solicitors.

Visualising the data categories and codes holistically using the code mapping technique provided a conduit through which to view similarities, differences, and most importantly interconnections and relationships in the data. Through the data coding processes, the memoranda writing and code mapping, dominant data-driven concepts and/ or themes were distilled. Data theming helped to categorise and later connect the dominant themes.

## Data theming.

Saldaña (2016) reminds us that the objectives of data analysis include thematic reduction toward an “overarching” or “integrative theme that weaves various themes together into a coherent narrative” (p. 199). First cycle *initial* data coding methods yielded 13 data themes (Figure 5.5). The number of emergent data themes was reduced further with subsequent data refining. Diagramming was employed to move abstract concepts and themes emerging from the data to visualisations of the dominant themes, concepts and their interconnections.

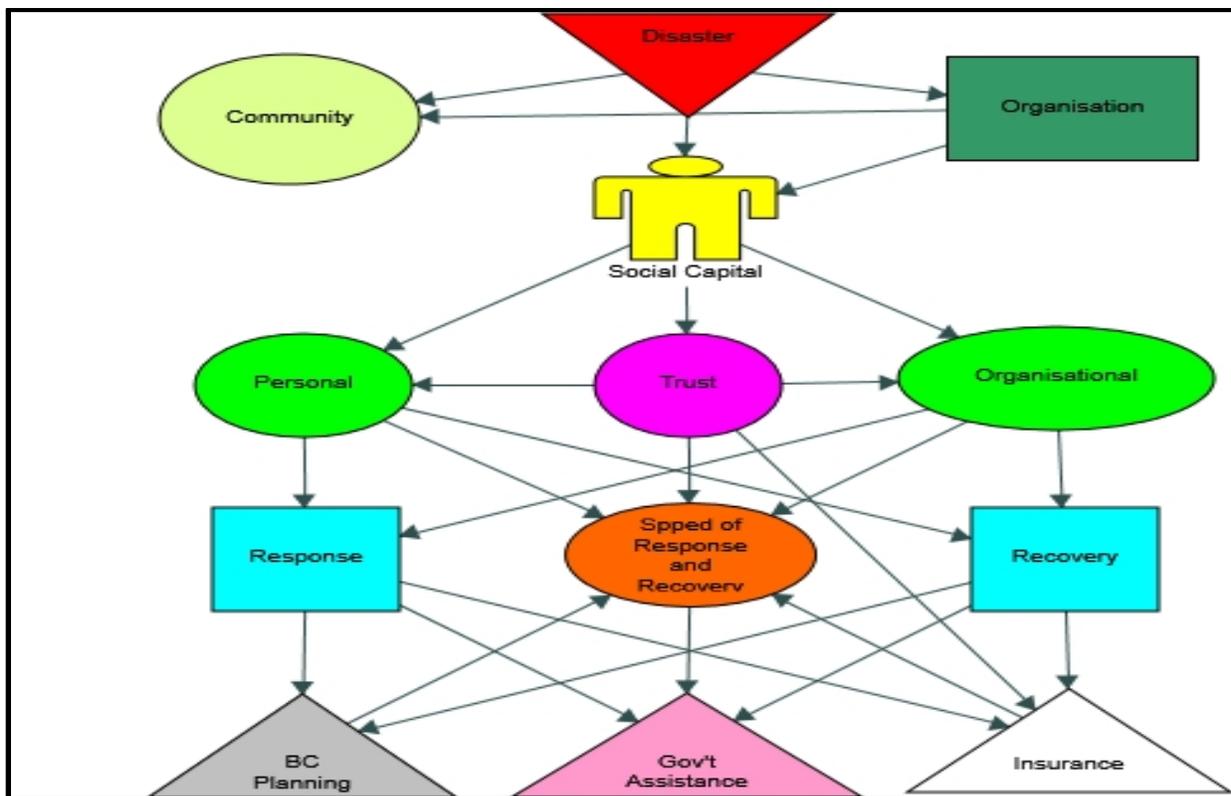


Figure 5.5. Data themes distilled through first cycle initial data coding.

## Diagramming

Sketching, doodling and diagramming were undertaken to categorise data in effort to visualise dominant patterns, or *themes*, manifested in the data. Whether used to model existing or theoretical processes or simply to help make sense of the data, diagrams and sketches put flesh on the proverbial data analysis skeleton. Saldaña (2016) recommends that researchers “Explore

how [their] codes, categories, themes, and concepts can be represented visually to supplement your analysis, clarify your thoughts, and enhance your written presentation” (p. 228).

Sketches and diagrams were created to help visually represent emerging themes from the data and to help clarify and make sense of the data. For example, early data analysis conducted during first cycle data coding suggested that post-disaster recovery strategies for many businesses affected by the earthquakes were predominantly private insurance and government assistance and that social capital, at the organisational level, was not a resource that produced tangible benefits toward disaster recovery efforts for the vast majority of research participants. Figure 5.6 (below) is a conceptual representation of this preliminary finding from early data analysis in this study. The first cycle data analysis methods of *provisional* and *attribute coding* significantly reduced data volume while simultaneously capturing and coding research participant’s demographic information and other data. *Structural*, *process* and *in vivo coding* further refined the data categories, codes and sub-codes during first cycle data coding.

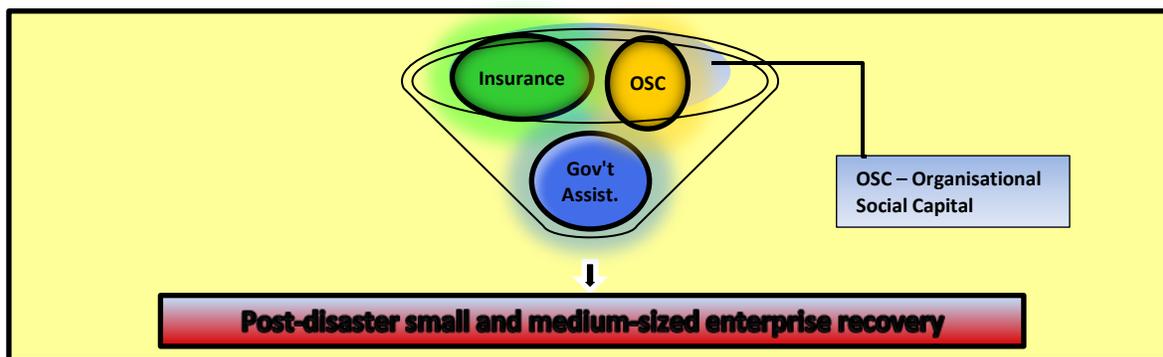


Figure 5.6. Diagrammatic representation of first cycle coding emerging concept regarding the viability of social capital as a post-disaster recovery resource producing tangible benefits for small-to-medium-sized enterprises.

Data coding processes combined with analytic and reflective memoranda, code mapping, diagramming, and data theming facilitated the shaping of concepts and/ or themes from the data. Emerging originally as abstract skeletal shapes during the early stage of first cycle data coding,

conceptual and/ or thematic clarity increased steadily. Second cycle data coding added further clarity to the initial concepts and/ or themes distilled through first cycle coding methods.

### **Second Cycle Data Coding**

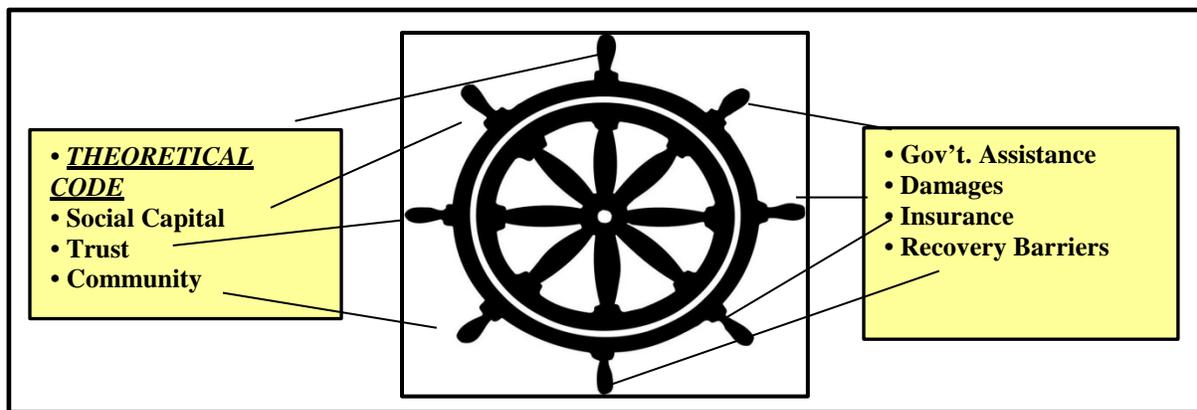
A second cycle of data coding was conducted to further organise the data categories and codes. According to Saldaña (2016), the predominant objective of coding data a second time is “. . . to develop a sense of categorical, thematic, conceptual, and/or theoretical organization from your array of first cycle codes” (p. 234). Toward those objectives, *axial* and *magnitude coding* methods were applied to the research data.

#### **Axial Coding.**

The predominant objectives of *axial coding* are to identify the most dominant data categories, codes, concepts and/ or themes generated during first cycle data coding while also eliminating categorical, codified, conceptual and/ or thematic redundancies. Another objective of *axial coding* is to give dimension to categories and/ or codes. Saldaña (2016) asserts that, “Axial Coding describes a category’s properties and dimensions and explores how the categories and subcategories relate to each other” (pp. 235-236).

The term, *axial*, in *axial coding*, can be construed as having a similar contextual meaning as category with each *axis* representing a dominant data category gleaned from the research data. The nautical wheel is often used allegorically to represent *axial coding* with each spoke in the wheel representing a dominant data category or, *axis*, in the research data. Figure 5.7 (below) is an early diagrammatical representation using the nautical wheel visualisation for the dominant data axes in the present research distilled through *axial coding* during second cycle data coding. The seven dominant data axes include *government assistance*; *damages* (includes physical and economic); *social capital* (represents leveraging organisational social capital toward post-

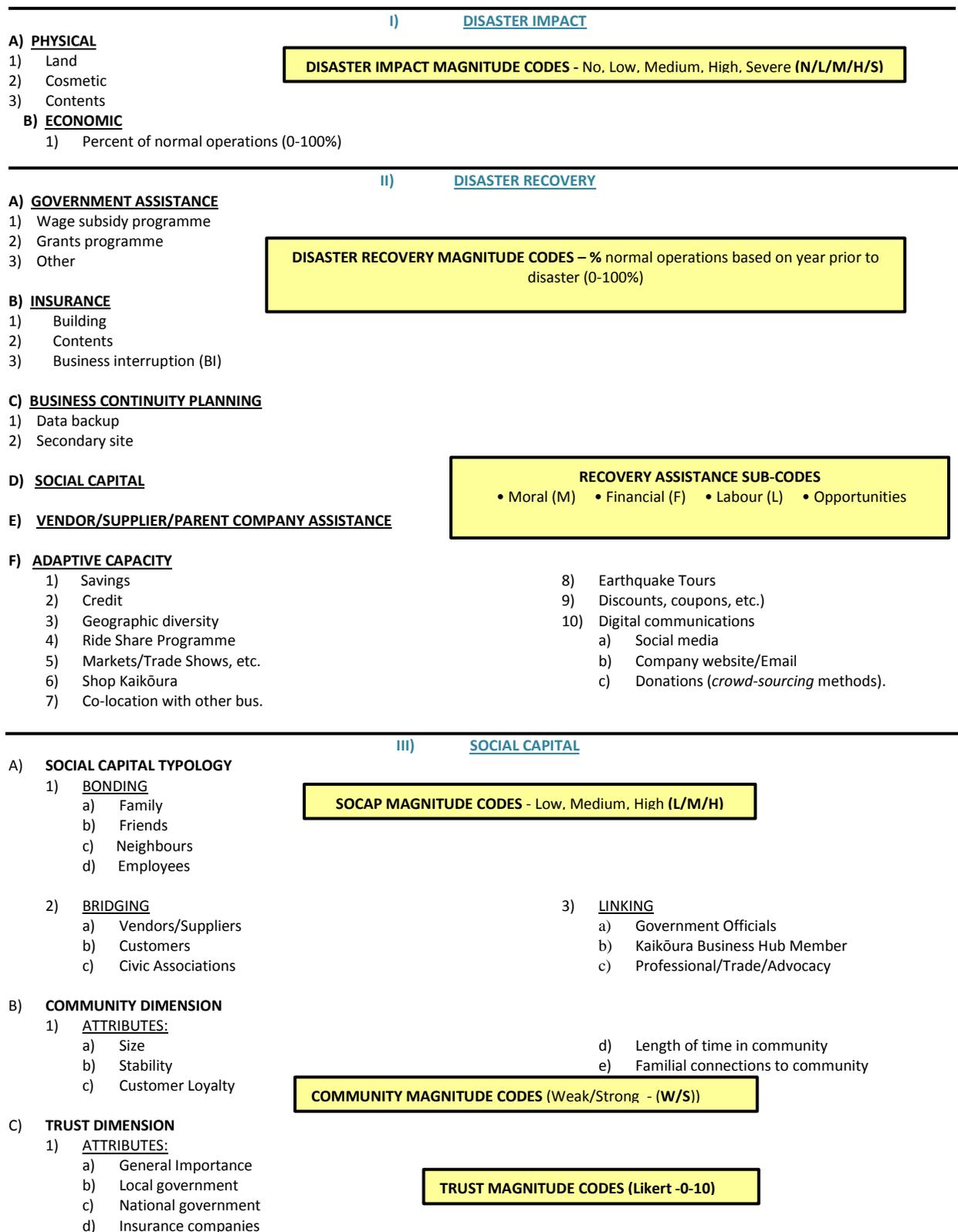
disaster recovery efforts); *trust* (represents the role of trust in building and maintaining social capital); *insurance* (represents issues related to insurance); *recovery barriers* (represents barriers to post-disaster recovery); and *community* (represents the business community that the organisation operates within). *Business continuity planning* was eliminated as an axis because most participants (n=27) did not engage in business continuity planning. The top axis is intentionally blank because this diagram represents data axes identified prior to *integration* and *theoretical coding*.



**Figure 5.7. Nautical wheel representation of dominant axes distilled during second cycle axial coding.**

The iterative data coding processes resulted in frequent reconfiguration of the data axes. Early *initial coding* processes identified 13 themes in the data as shown above (Figure 5.5). Second cycle *axial coding* reduced the themes from 13 to eight as shown below (Figure 5.8).

Further analytic reduction absorbed the disaster impact axis into the disaster recovery axis leaving two axial themes: social capital and disaster recovery, represented in Figure 5.9 (below). Three types of social capital – bonding, bridging and linking – were initially identified in the research data. A fourth type of social capital, *latent social capital*, is discussed later. Post-disaster assistance typologies were also identified. Second cycle data coding indicated that theoretical saturation was reached as novel information was not forthcoming from the data.



**Figure 5.8. Second cycle coding axial code map (dominant axes, sub-axes, codes, and magnitude codes.**

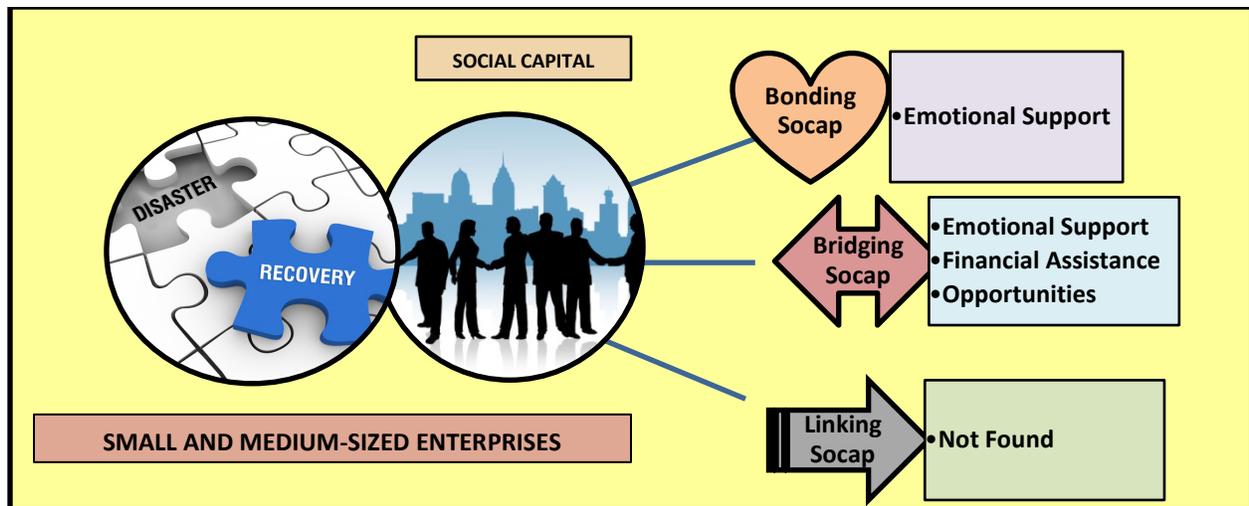


Figure 5.9. Final axes from second cycle axial coding.

**Data (theoretical) saturation.**

The concept of data saturation; or, *theoretical saturation*, refers to the amount of research data collected necessary to develop theoretical knowledge (Charmaz, 2000; Creswell, 2014; MacQuarrie, 2010; Mason, 2010). Theoretical saturation, largely speculative, is typically determined by the researcher. Ultimately, theoretical saturation is achieved when additional information collected from the research does not yield new information. Instead, new information tends to align with research themes already identified in the data collected early on in the research. According to Guest, Bunce and Johnson (2006), theoretical saturation occurs at “the point at which no new information or themes are observed in the data” (p. 59). Thus, theoretical saturation is not achieved by conducting a specific number of research interviews. Instead, theoretical saturation occurs when novel information extracted from the data ceases to occur. In other words, theoretical saturation occurs when no new information is being produced through additional interviews; the data gleaned becomes repetitive.

For example, Creswell (1998) recommends that 20-30 interviews are needed to achieve theoretical saturation in grounded theory research studies. However, scholars have not reached consensus on this topic. First and second cycle analysis of the first 23 interview transcripts in the

current research indicated theoretical saturation had likely been reached. Data coding, particularly *axial coding*, on an additional seven interviews confirmed that theoretical saturation had been reached. The properties of the dominant data axes identified through *axial coding* were given dimension with *magnitude sub-coding*.

### ***Magnitude sub-coding.***

*Magnitude coding* was used to generate sub-codes representing the dimensional properties of the data axes generated from *axial coding*. Describing their utility, Saldaña (2016) states that, *magnitude codes* indicate the “intensity, frequency, direction, presence, or evaluative content” of a code or data category through the assignment of an “alphanumeric or symbolic code or subcode . . .” to the data or categories of data (p. 86). Additionally, Saldaña (2016) argues that, *magnitude codes* dovetail nicely with grounded theory recommendations to identify and define the dimensional attributes of a property or category; adding that, *magnitude codes* may be used to “tentatively plot [dimensional ranges] observed in the data” (p. 90).

Although this research is **not** grounded theory research, data analysis methods commonly used in grounded theory research were used throughout this study including *magnitude coding* methods, among other coding schemes (Charmaz, 2008, 2014; Saldaña, 2016). Skeletal data axes and/ or codes generated during *axial coding* were thusly given dimension using *magnitude coding*. *Magnitude codes* were generated and subsequently applied as sub-codes to the *axial codes* already applied to the data. One set of *magnitude codes* was applied to give dimension (Low/Medium/High – (L/M/H)) to the *social capital* axis based on the variables delineated in Table 5.5 (below). After assessing the typology and degree of social capital possessed by research participant’s using the matrices in Table 5.5, the research participants were assigned a *magnitude code* of low (L); medium (M); or high (H).

**Table 5.5. Social capital dimensional variables, codes, sub-codes, and magnitude coding scheme.**

<b>SOCIAL CAPITAL (SOCAP) AXIS (DIMENSION VARIABLES)</b>	<b>CODES/ SUB-CODES</b>
<b>BONDING SOCIAL CAPITAL</b>	<b>BOND</b>
Family (local)	<b>FAM</b>
Friends (local)	<b>FRN</b>
Employees (local)	<b>EMP</b>
Neighbours (local)	<b>NAY</b>
Civic Associations (local)	<b>CIV</b>
<b>BRIDGING SOCIAL CAPITAL</b>	<b>BRID</b>
Vendors/Suppliers	<b>VEN</b>
Associates (friend-of-a-friend)	<b>ASC</b>
Customers	<b>CUS</b>
<b>LINKING SOCIAL CAPITAL</b>	<b>LINK</b>
Government Representatives/Officials	<b>GOV</b>
Professional/Trade Associations and/ or Advocacy Groups	<b>PTA</b>
<b>SUPPORT TYPOLOGY SUB-CODES</b>	
Emotional	<b>E</b>
Financial	<b>F</b>
Labour	<b>L</b>
Opportunity	<b>O</b>
<b>SOCIAL CAPITAL MAGNITUDE CODES</b>	
Low = < 3 sources of SOCAP support	<b>L</b>
Medium = 3-4 sources of SOCAP support	<b>M</b>
High = > 5 sources of SOCAP support	<b>H</b>

*Magnitude codes* were also applied as sub-codes to the *trust* and *community* data axes.

The magnitude codes that were added to the *trust* axis provided dimension to the varying degrees of trust that research participants expressed in general and toward entities involved in their disaster response and/ or recovery efforts. These entities include local government, national government and research participant’s insurance companies. *Magnitude codes* were Likert-based (0-10). *Magnitude coding* was also applied to the *community* axis.

The *community* axis was given dimension by assigning binary magnitude codes of weak or strong (W/S) to the five community-orientated variables listed in Table 5.6 (below). The

*magnitude codes* assigned to the five *community* variables were tallied and an overall dimensional *community* axis binary *magnitude code* was assigned to the research participant. Additional variables within the community ties variable include the length of time a research participant has been living and/ or working in the community and the depth of their local family ties, if any. The *damages* axis was also given dimension through *magnitude coding*.

**Table 5.6. Community axis dimension variables.**

<b>COMMUNITY AXIS DIMENSION VARIABLES</b>	<b>CODE(S)</b>
<b>INTERVIEW QUESTIONS</b> Community-related sentiments made by research participants indicative of devotion to community. Coded as weak or strong (W/S).	WEAK/STRONG (W/S)
<b>COMMUNITY EVENTS</b> Participation in local events. Coded as weak or strong (W/S).	WEAK/STRONG (W/S)
<b>COMMUNITY AND CIVIC ASSOCIATIONS</b> Participation/membership in community associations and/ or membership in local civic associations. Coded as weak or strong (W/S).	WEAK/STRONG (W/S)
<b>LOCAL POLITICS</b> Active and ongoing participation in local government. Coded as weak or strong (W/S).	WEAK/STRONG (W/S)
<b>COMMUNITY TIES</b> Strength of connection to the community using length of time in the community and local familial ties as variables. Coded as weak or strong (W/S).	WEAK/STRONG (W/S)

The *damages* axis and its sub-axes were sub-coded using *magnitude coding* to indicate the severity of physical and financial damages caused by or associated with the particular disaster. The *magnitude codes* providing dimension to the scale of the physical and financial damages include: No/Low/Medium/ High/Severe (N/L/M/H/S). The *recovery* axis was also given dimension through sub-coding. Additional coding and subsequent data analysis subsumed the *damages* axis under a different axis. Similarly, the *recovery* axis evolved.

The *magnitude codes* for the *recovery* axis included: No/Low/ Medium/High/Complete (N/L/M/H/C) to give dimension to the recovery scale and speed. The *recovery* axis *magnitudinal* sub-code structure was later revised. *Recovery magnitude* sub-codes, (N/L/M/H/C), were replaced by research participant’s responses to the interview questions regarding how proximal

or distal their respective business organisations were, financially, from normal operations on the dates of the interviews. Estimations provided by the research participants were based upon their sales figures through the interview date compared against their sales figures from the previous year. Research participant's responses were expressed as operational normalcy percentages. One constant throughout data coding in this study was the continual reorganisation of the data axes, codes, concepts and/ or themes throughout the comparative data analysis process.

Continuous comparative analysis of the data corpus including the data axes, codes, concepts, and/ or themes that were identified and/ or generated during first and second cycle data coding resulted in data categories, codes, concepts, and/ or themes being supplanted and/ or subsumed by other data categories, codes, concepts, and/ or themes. Categorical, codified, conceptual, and/ or thematic rewording, renaming, and/ or deletions also occurred frequently throughout the iterative data analysis and coding processes. Early *initial coding* methods facilitated the tentative categorisation and/ or codification of research data under 15 axes and 28 correlative sub-axes (Table 5.1). Additional data refinement employing *axial coding* during second cycle data coding reduced the data axes from 15 to eight after the first iteration, as illustrated in Figure 5.7 (above). Further refinement of the data reduced the data axes from eight to three as represented in Figure 5.8 (above). The third cycle of data coding was conducted using *theoretical coding* methods.

### **Third Cycle Data Coding**

*Axial codes* applied to the data during the second cycle of data coding further refined and reduced the data axes, codes and sub-codes by facilitating the identification of the dominant data themes and the subordination and sub-categorisation of non-dominant data themes, axes, and/ or codes within the dominant data axes (*data theming*). Consequently, abstract conceptual and

thematic shapes formed early on during second cycle coding. As the second cycle of data coding concluded, the abstractions waned yielding to increasing levels of conceptual and thematic clarity trumpeting the end of second cycle data coding and the beginning of the third and final phase of the data analysis process, referred to as, *theoretical coding* Saldaña, 2016)..

### **Theoretical Coding.**

According to Saldaña (2016), *theoretical coding* is used as the final step in grounded theory research toward establishing theory that is grounded in the research data. Although this is not grounded theory research, data analysis methods commonly used in grounded theory research were used for all of the data coding cycles culminating with *theoretical coding*. *Axial coding* ferreted out the thematic spine of this research whereupon other data themes, axes and/ or codes were subordinately aligned and/ or integrated.

### **Integration.**

Integration commenced with the identification of the central theme found in the data. Saldaña (2016) states that all other data categories and concepts should align “around the central/core category, the one that suggests a theoretical explanation . . .” (p. 250). With that objective in mind and as distilled from the aforementioned data analysis methods, the central category or, *theoretical code*, of this research emerged as: *social capital as a disaster recovery resource for small-to-medium-sized enterprises*. Finessing the *theoretical code* further, the *theoretical code* was revised to: ***social capital as a post-disaster recovery resource for small-to-medium-sized enterprises***. Using this code as the central category upon which to align all other data categories, sub-categories and codes, a theory emerged from the analysed data:

***Bridging social capital connects small-to-medium-sized enterprises to more diverse private-sector, post-disaster recovery resources than bonding or linking social capital typologies.***

The criteria for assessing the research design are discussed in the following section.

## **Research Design Quality Criteria**

As stated previously, this multiple case study employed grounded theory data analysis methods. Though typically empirical research, Yin (2014) advises that employing an inductive strategy of data analysis in case study research such as those used in grounded theory research “can yield appreciable benefits . . .” particularly for “experienced researchers [who] are likely to have relevant concepts in their head because of richer understanding of their field of study” (p. 138). Research validity and quality are largely predicated upon the quality of the research design.

Four design quality metrics commonly used to assess empirical case study research include construct validity, internal validity, external validity, and reliability (Yin, 2014). Although this research has adopted an inductive data analysis strategy, empirical social research design quality metrics are nevertheless useful in assessing the validity and reliability of the research design, adding to the validity and reliability of the research findings. Thus, a high quality research design should, ostensibly, bear high quality research fruit. One research design quality assessment is construct validity.

### **Construct validity.**

Construct validity, according to Yin (2014), refers to the research design accuracy in terms of identifying the appropriate “operational measures for the concepts being studied” (p.46). Three methods for assessing construct validity include: (1) using multiple sources of evidence; (2) establishing an evidence chain; and (3) research participant review of case study reports; referred to as, *member checking* (Saldaña, 2016). The first of the three criteria regarding the validity of the research design was met; conclusively. Multiple sources of evidence were used in this research.

First and foremost were the 30 interviews from different organisations operating in various industry sectors. Moreover, research participants were from different cities where significant disasters occurred. Another factor creating separation between the cases was time; more than five years separates the two disaster events. Additionally, government and news reports provide additional sources of data. Multitudinal sources of data, spanning both time and space, serve to triangulate the data thereby satisfying the first caveat of construct validity.

The second caveat, the maintenance of an evidence chain, is important for construct validity. According to Yin (2014), it is also important for increasing data reliability in case studies. Maintaining a chain of evidence is accomplished by maintaining a direct and continuous logical flow throughout the research process. Yin (2014) asserts that, an external reader of the report should be able “. . . to follow the derivation of any evidence from initial research question to ultimate case study conclusion” (p. 127).

In this study, the research phenomenon and associated question is *what is the role of social capital in the post-disaster recovery of small-to-medium-sized enterprises and how is it leveraged toward their post-disaster recovery efforts?* Semi-structured interview questions were used in accord with the case study research protocol created for this study. In vivo quotes from research participants supplemented with direct citations to other evidence supported in the data are woven into narratives within the report. A database housing the data from the 30 case studies was created and maintained throughout the research.

The third caveat is member checking. Research participants were provided transcribed copies of their respective interviews for review and verification. Amendments, deletions and/ or additions were few (n=1). The three caveats related to construct validity have been demonstratively met in this study.

Internal validity will not be addressed because it is applicable in “explanatory or causal studies only” according to Yin (2014, p. 47). Similarly, external validity, that is, whether or not findings from this study extend beyond the research participants, was never an expectation due to the small number of research participants. Therefore, the external validity assessment is moot and will not be addressed. However, reliability metrics will be addressed.

Reliability refers to the ability to duplicate operational elements employed in a study with similar results. One caveat of the reliability test noted by Yin (2014) is that “the emphasis is on doing the *same* case over again, not on ‘replicating’ the results on one case by doing another case study” (pp. 48-49). Methods used by researchers to increase reliability include the use of a case study protocol and the creation of a case study database. As mentioned previously, a case study protocol and a case study database were created, used and maintained throughout this research. Moreover, the same core interview questions were used throughout this research for all of the research participants.

### **Chapter Summary**

The processes used to analyse the data that was collected during 30 research interviews were thoroughly described in this chapter. Data coding, analytic and reflective memoranda, code maps, data theming, and diagramming were strategically employed to identify the dominant concepts and themes in the data. To be sure, after the vast amount of data collected from the research participants had been aptly filtered through the multi-cycle data coding process there were significant word count and data noise reductions. Yet, more importantly, rich data was distilled through the data coding process leading to insightful and important research findings and the generation of new theory.

The data became increasingly purified through subsequent cycles of data coding in a process analogous to distillation predominantly in the second and third cycles of data coding. Continuing with the distillation analogy and visualisation, subjecting the research data to multiple cycles of data coding caused the irrelevant, superfluous, demographic, and/ or other data deemed less important toward addressing the research question of this study to crystalize in the distilling flask; whereas, the purified, concentrated and rich research data was deposited into the receiving flask. The richly distilled research data illuminated novel and meaningful research insights and findings and facilitated the generation of new theory: *latent social capital*. The application of three cycles of data coding and multiple iterations of first cycle coding to the research data; indispensably, served to filter and distil the research data that was collected during interviews with the research participants. The research data was converted from a diluted and mixed solution of raw data into concentrated, compartmentalized and rich data sets through the data coding process.

First cycle *initial coding* employed a combination of *provisional*, *attribute*, *structural*, *process*, and *in vivo coding* methods. Second cycle data analysis applied *axial and magnitude sub-coding* to the data. The third and final cycle was the application of *theoretical coding* to the data. The product was the generation of a *theoretical code* culminating in theory generation strongly grounded in the research data.

This chapter concluded with a discussion on the methods employed throughout this research to ensure academic rigour. The criteria for assessing the quality of a multiple case study research design were discussed with specific examples delineating compliance or justification for exception in the present study. The next chapter presents detailed findings from this research.

# CHAPTER 6

## RESEARCH FINDINGS

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## Chapter 6 – Research Findings

### Introduction

A detailed description of the data analysis processes employed for this research was provided in the previous chapter. Coding and non-coding data analysis processes led to the identification of the central research data axis. Identifying the central research data axis facilitated the subordinated alignment of the other data axes, codes and sub-codes. Thus, the central data axis (*theoretical code*) became the axial spine upon whence all other axes and data categorised in this study were anchored facilitating the development of theory strongly grounded in the data. This chapter presents the research findings of this study. Research findings are organised and presented in sections guided by the semi-structured interview questions and topics. A copy of the interview questions used in this study with the research participants from both Christchurch and Kaikōura is provided in Appendix C.

### Organisational Demographics

Organisational demographic data coded during first cycle, *attribute coding*, is illustrated in this section using tables, graphs, and/ or charts. *Attribute codes* were applied to data from the interview transcripts to document the following organisational demographic components: location of the organisation; industry sector; years in operation; business structure; and number of employees. The data is divided between organisations operating in Christchurch and organisations operating in Kaikōura.

#### **Locations.**

Thirty organisations from two different cities on the south island in New Zealand participated in this research. Twelve of the participating organisations are from Christchurch. The remaining 18 participating organisations are from Kaikōura.

## Industry sectors.

Using the Australian and New Zealand Standard Industrial Classification system (ANZSIC, 2006), research participants from first-level ANZSIC industrial sectors were represented in the data set as shown in Figure 6.1 (below). Industry sectors represented include manufacturing (C); retail trade (G); accommodation and food services (H); transport, postal and warehousing (I); rental, hiring and real estate services (L); professional, scientific and technical services (M); arts and recreation services (R); and other services (S). The industry sector with the largest number of research participants in this study operate in the retail trade (G) and the accommodation and food services sectors (H).

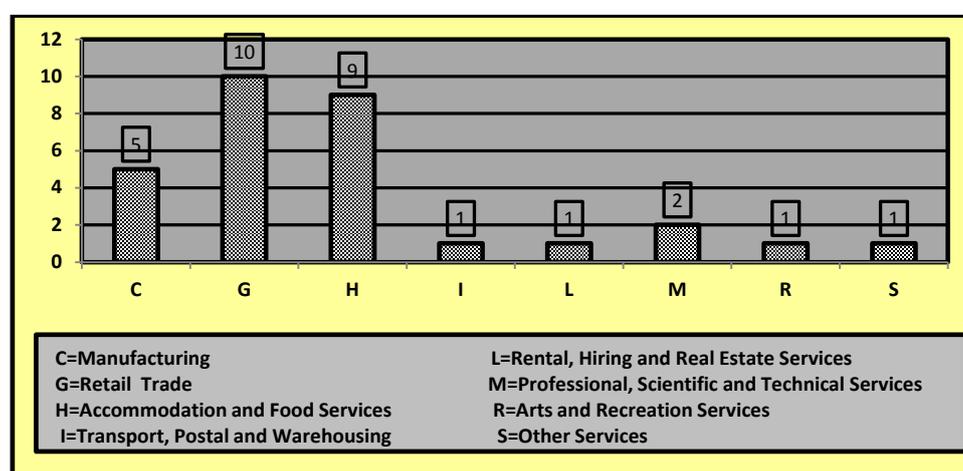


Figure 6.1. Research participant industry sectors.

The industry sectors represented by the research participants from this study are arranged by city as shown below in Figures 6.2 and 6.3. The accommodation and food services sector is the industry sector with the largest number of Christchurch research participants (n=5) followed closely by the retail trade sector (n=4). Research participants from Kaikōura are closely divided between the retail trade (n=10) and accommodation and food services industry sectors (n=9). Expectedly, the length of time that the participating businesses in this study have been operational was varied.

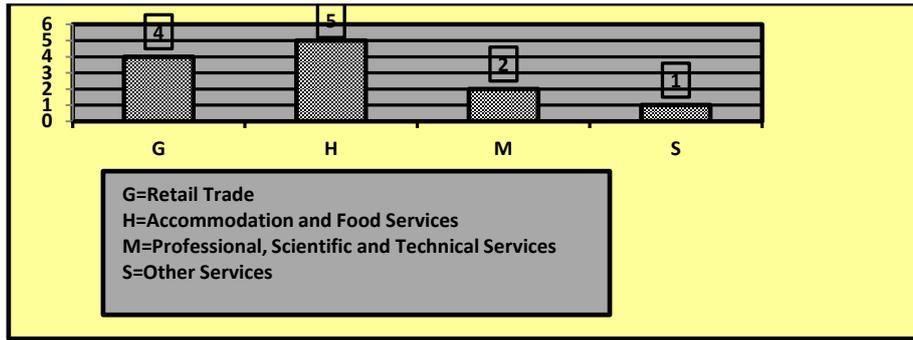


Figure 6.2. Industry sectors represented by Christchurch research participants.

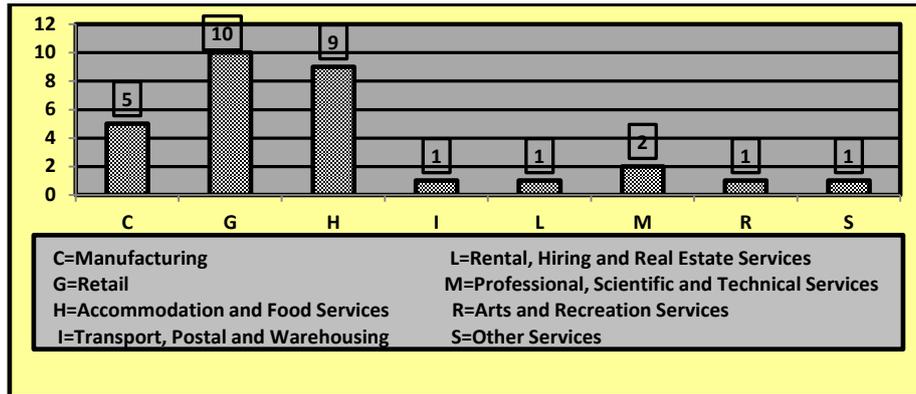


Figure 6.3. Industry sectors represented by Kaikōura research participants.

### Years in operation.

The amount of time that research participants have been operating their respective businesses varied. The vast majority of participants (80 percent) had been operational between three and 20 years at the time of data collection. Overall, the largest number of research participants (n=7) had been in business for 11-15 years, as shown in Figure 6.4 (below). The data is further bifurcated between the research participants from Christchurch and Kaikōura in Figures 6.5 and 6.6 (below).

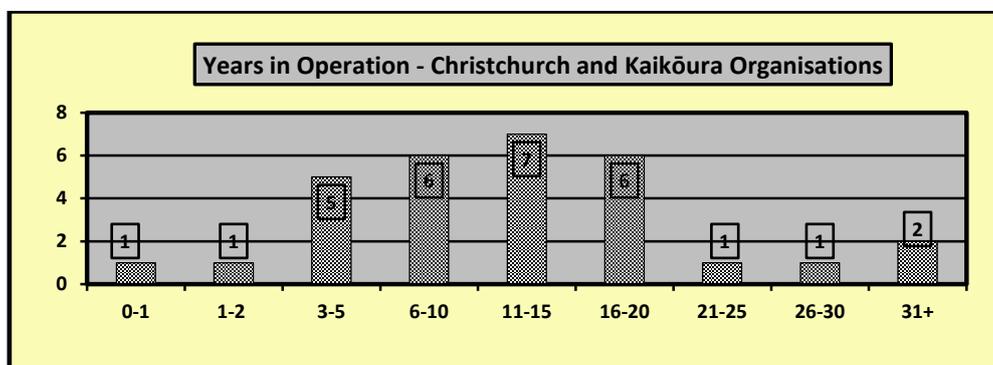


Figure 6.4. Years in operation – combined figures.

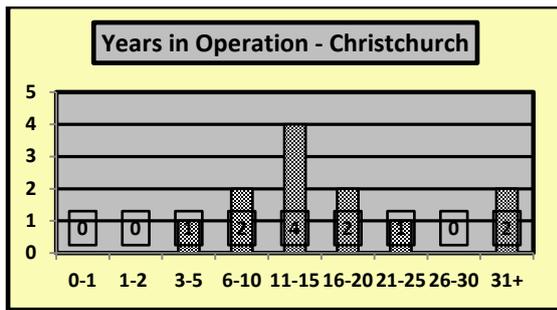


Figure 6.5. Years in operation – Christchurch orgs.

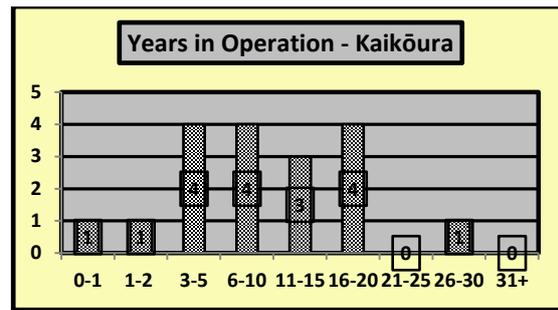


Figure 6.6. Years in operation - Kaikōura orgs.

### Organisational structures.

The legal business structures of the participating organisations in this research did not vary greatly. A limited company (n=24) legal structure was the predominant organisational structure among the research participants. Sole-trader (n=4) and partnership (n=2) legal structures were also represented in the data. All 12 organisations from Christchurch are limited companies. Twelve organisations from Kaikōura are limited companies; two are partnerships; and four are sole-traders.

### Employees.

The number of workers employed by 27 of the 30 participating organisations in this study ranged from one to 20 employees. Two research participants from Kaikōura seasonally employ more than 20 employees and do so during the peak summer tourist season. During the winter months the workforce is reduced to fewer than 20 employees. Thus, arguably, these two Kaikōura businesses do not violate the research participant criteria. The third participating organisation with more than 20 employees was a parent company in Christchurch that had a number of subsidiary organisations, also located in Christchurch. Combined, the total number of employees from the multitude of subsidiary organisations controlled by this one parent company exceeded 400 prior to the 2011 Christchurch earthquake. However, the 2011 Christchurch earthquake destroyed all of the subsidiary organisations. Post-disaster, this organisation has just one employee. The decision to include this organisation in this study despite its pre-disaster staff size was made to (1) triangulate the

data; and (2) to identify, compare and contrast differences (if any) in the use of social capital by small organisations toward their post-disaster recovery with a larger organisation’s use of social capital in their post-disaster recovery trajectories.

Figure 6.7 (below) illustrates the range in the number of workers employed by the participating organisations. The most common number of workers employed by organisations from both Christchurch and Kaikōura are between three and five, as shown below in Figures 6.8 and 6.9; respectively.

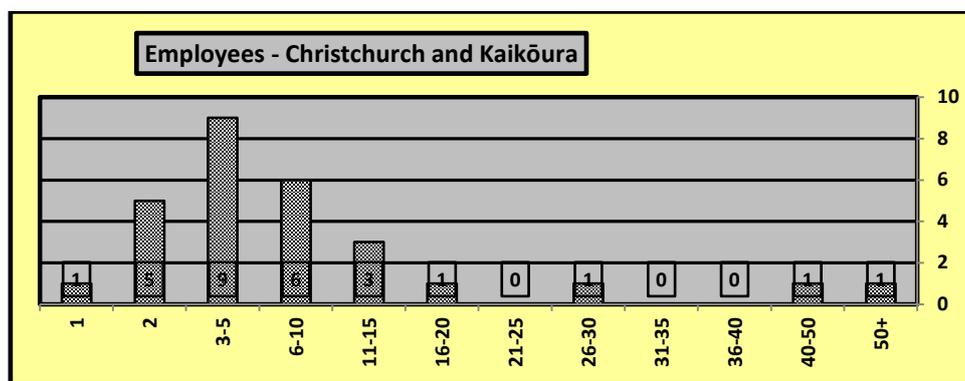


Figure 6.7. Number of workers - Christchurch and Kaikōura.

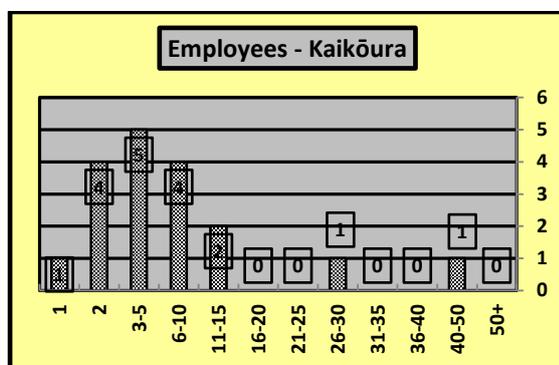


Figure 6.8. Number of workers – Chch.

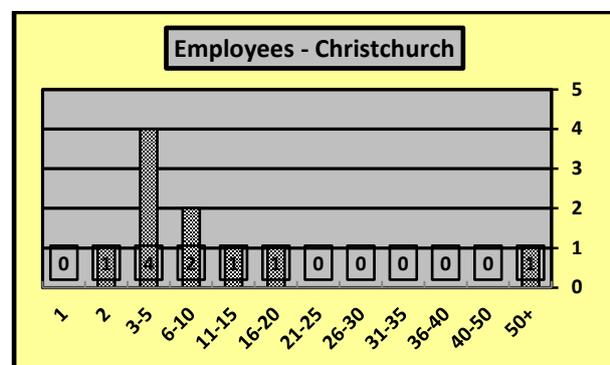


Figure 6.9. Number of workers - Kaikōura.

## Organisational Risk Management

Research participants from Christchurch and Kaikōura employed a variety of risk management strategies and methods toward continuing their post-disaster business operations. For example, 10 research participants reported the existence of secondary sites from whence to continue their operations. Other participants relied heavily upon rainy day funds. Business continuity planning was not well represented among the research participants. However, the use of government assistance was ubiquitous. Unequivocally, the

dominant risk management strategy employed by research participants was through insurance, as illustrated in Figure 6.10 (below).

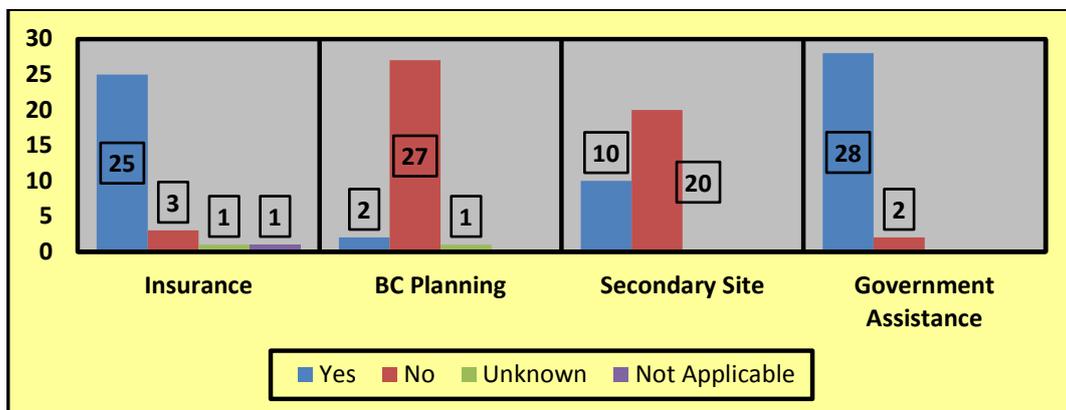


Figure 6.10. Research participant risk management strategies.

### Insurance.

The majority of organisations participating in this research carried some form of business insurance (n=26), as shown in Figure 6.11 below. Most research participants from Christchurch carried some form of business insurance (n=11) at the times of the interviews. One research participant from Christchurch, the manager of the organisation, did not know whether or not his organisation had any form of business insurance or not. As with the participating organisations from Christchurch, most participating organisations from Kaikōura also carried some form of business insurance at the times of the interviews (n=16). Two organisations from Kaikōura had no business insurance.

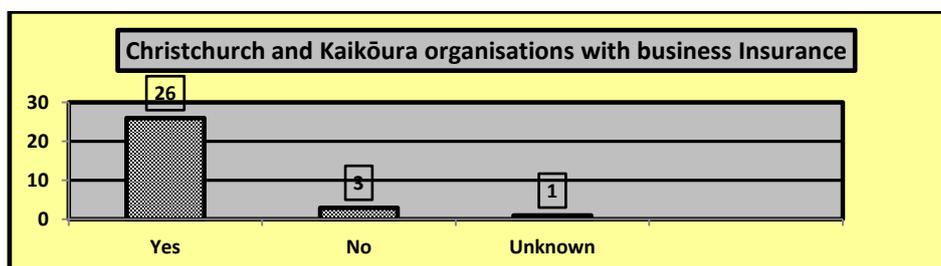


Figure 6.11. Business Insurance - Christchurch and Kaikōura participants.

According to Steve Cowdy, General Manager of Atherstone, a business in Kaikōura’s hospitality sector, his organisation is self-insured. Pete-the-Monk is the owner of Happy Daze, a business operating in the hospitality sector of Kaikōura. Pete-the-Monk rationalises

not carrying insurance because of his lack of trust in insurance companies; a sentiment held by other participants. In the words of Pete-the-Monk:

I haven't even got insurance. No earthquake, no building insurance, no public bloody liability insurance; nothing. You know why? Because insurance companies are about as untrustworthy as you can get and they're never going to bloody pay you anyway. Why would you bother having insurance to think you're covered for something that you find you're not? I'd rather know where I stand; take it on the bloody chin when it happens. I haven't got mortgages or anything. I'm not being forced by the banks to participate in that particular party; so no, I don't want to.

A more detailed discussion regarding trust is discussed later in this chapter. A contentious topic with many research participants was regarding a type of business insurance referred to as *business interruption (BI) insurance*.

#### ***Business interruption insurance.***

Many types of business insurance policies are available to organisations. For example, business insurance policies often provide coverage for damage to buildings and/ or contents resulting from fire, flood, and/ or theft in addition to protection from public liability should an injury occur to the public. However, a separate earthquake insurance policy is typically required for earthquake coverage. Similarly, a separate insurance policy, called *business interruption insurance*, is available.

Business interruption insurance is a policy whereby an organisation may submit a claim for losses in revenue caused by an interruption to the organisation, such as a fire. The majority of research participants in this study that had business interruption insurance expressed dissatisfaction and frustration with the lack of coverage and/ or relief provided by those policies. Summarily, business interruption insurance policies provided relief to organisations whose operations were interrupted due to damages to the business premises or building. However, business interruption caused by access issues, such as a road closures, are typically beyond the scope of coverage provided in a business interruption insurance policy. Hence, organisations that did not sustain physical damages that rendered their buildings

incapable of trading had claims against their business interruption insurance policies denied, in most cases. Numerous research participants from Kaikōura explained that their business interruption insurance policies did not provide any post-disaster relief because the causes of the interruptions to their organisations were road access issues. The closure of State Highway 1 is what most participants in this study attribute the loss in revenue for their organisations to, not the inability to trade because of building and/ or other physical damages to the businesses.

For example, Thomas, the owner of Hearth in Kaikōura, a hospitality sector organisation stated, “We did have business interruption as well but that was only going to be triggered by a materials damage claim; basically, if the buildings are damaged. And since they weren’t damaged, then we couldn’t claim anything on the business interruption.” Some research participants were advised by their insurance brokers against purchasing business interruption insurance before the earthquakes.

Southern Man, a general partner of New Beginning, an organisation operating in the tourism sector in Kaikōura, shared his thoughts regarding business interruption insurance:

As far as business interruption goes . . . you know, we were advised by our insurance broker quite a few years ago that it wouldn’t work for us unless . . . you know . . . our business or prime had been completely demo’d [demolished] by an earthquake or a tsunami or we had a fire. So, we were advised not to get BI – it wouldn’t work for us. It worked for people’s businesses or shops that were red-stickered and they couldn’t operate out of them. But for people that could run . . . you know, it wasn’t really going to work at all. The insurance broker actually advised us to put that premium away every year.

Southern Man’s sentiments regarding business interruption insurance were similarly held by Steve Cowdy from Atherstone. Steve stated that his largest losses resulted from the loss of revenue; and added . . . “business interruption insurance . . . I’ve learnt from this example. I’m very sceptical of it now. I mean . . . actually, many Kaikōura people have it but they learnt when you go to claim on it how difficult it is to use it.”

Although the majority of research participants held similar sentiments regarding business interruption insurance as Southern Man and Steve Cowdy, several participants

expressed positive experiences with their business interruption insurance coverage. For example, Camille, the owner of Pied Piper, an organisation in Kaikōura operating in the food/beverage sector, said that she had significantly increased the business interruption insurance coverage for her organisation prior to the 2016 earthquake, adding, “It’s been fantastic actually. We had increased it from one year to two years.” During an interview with Gary, the owner/franchisee of Andy, a retail organisation in Kaikōura, Gary indicated that he was satisfied with his business interruption insurance stating, “The business interruption so far from [redacted] has been great; the communication has been great and so that’s enabled money to keep coming in.”

Ralph, one of the principals of Messier 45, a well-known organisation in Christchurch operating in the hospitality sector stated, “We’ve got a really good relationship with our insurance company. They’re an insurance company, so don’t kid yourself that they’re your friend. We were paid out for the plant; paid out for the stock; and then paid out for the business interruption, which I think ran for a year.”

Another viewpoint was shared by Alexander, the owner of Sunson, a Christchurch organisation operating in the engineering sector. Alexander implied that the insurance companies may have been defrauded by some of their policy holders and that the media coverage is biased; opining,

While all you see on TV is people complaining about how things went wrong, which they may well have done. You don’t see the other side, which is where the insurance companies were taken for a ride as well.

The common sentiments regarding business interruption insurance among most of the research participants that carried it was disappointment, frustration and anger. Many felt that they had been duped or abandoned by the companies that insured them as well as by their insurance brokers.

A looming question remains on the issue of business interruption insurance. Are there systemic problems in New Zealand with respect to how insurance companies operate in the country, writ-large? Are there systemic issues with business interruption insurance and what the policies actually cover? Could this be why some insurance brokers advised their clients not to purchase business interruption insurance policies as was reported by several research participants? Or are policy holders simply failing to read their policies thoroughly to understand what their policies cover versus what they do not? Future research should seek answers to these questions. Although not a formal insurance policy, business continuity planning is contingency planning and may be construed as a non-indemnity form of insurance for an organisation.

#### **Business continuity planning.**

A key area of this researcher's interest is business continuity planning; particularly the degree of business continuity planning engaged in by organisations. Accordingly, the data shows that the majority (n=27) of research participants in this study did not have business continuity plans at the times of the disasters or the interviews. Two research participants indicated that they did have business continuity plans; one research participant was unsure. Many participants did not know what business continuity planning was. Some research participants confused business continuity planning with Health and Safety regulations and/ or evacuation plans/routes. Other research participants stated that they had business continuity plans but that their business continuity plans were not documented in writing. Instead, the plans were "in their heads."

Gary, the owner/franchisee of Andy in Kaikōura, indicated that he had a business continuity plan through his parent company and franchisor. However, it remains unclear if the plan referred to by Gary is actually a business continuity plan since it was not made available to inspect. The other organisation that stated that they engage in business continuity

planning is an advocacy organisation with offices in Christchurch and Wellington. The participant from this organisation was unable to provide any additional information regarding the organisation's business continuity planning. Similarly, the participant from the third organisation that stated they have a business continuity plan was also unable to provide any information regarding that organisation's business continuity planning.

The three participants that indicated that they either had business continuity plans at the times of the interviews or that they were unsure were not the owners of the organisations. The organisations they represent are formally connected to larger parent organisations. In other words, these three participating organisations are franchises or local satellites of larger organisations with multiple locations throughout New Zealand. Conversely, the other 27 participating organisations were not formally connected to larger organisations. An element of business continuity planning recommends the establishment of secondary locations from whence to conduct business operations in the event that the primary location becomes inoperable.

### **Secondary sites.**

Secondary sites provide an alternate location from whence an organisation may conduct its business operations should its primary location become inoperable. Secondary sites can be fully operational with all electricity, furnishings, and systems needed to facilitate business operations or merely an unfurnished building that would need to be furnished and powered to support business operations. According to the Business Continuity Institute, these two types of sites are called *hot sites* and *cold sites*; respectively (Bird, 2011). Whereas, one third of participating organisations had pre-existing secondary sites from whence to continue business operations in the event of a disruption at their primary location (n=10), two-thirds of participating organisations did not have such pre-existing secondary sites (n=20). Although

insurance was the predominant risk management strategy employed by research participants in this study (n=26), government assistance (GA) was even more ubiquitous.

### **Government assistance.**

Post-disaster assistance provided by the government of New Zealand for the 2011 Christchurch and the 2016 Kaikōura earthquakes was received by 90 percent (n=27) of the research participants in this study. Government assistance was provided through wage subsidy programmes and grants programmes. Twenty-seven of the participating organisations in this study received some form of government assistance; predominantly wage subsidies; three participating organisations did not.

One of the organisations that did not receive any form of post-disaster government assistance was Wear-With-All, a retail sector organisation from Kaikōura. According to Beverly, the Manager of Wear-With-All, the organisation has secondary sites and elected to pull their stock from the Kaikōura location until traffic on State Highway 1 resumed. Beverly stated that although the organisation could have received post-disaster government assistance in the form of wage subsidies, the owners of the organisation elected to pay Beverly her wages out of their own pockets while the store was closed. No explanation was provided for the owner's decision to pay Beverly, out-of-pocket, while the store was closed.

Another organisation that did not receive any form of post-disaster government assistance was Rise and Ride, an organisation operating in a specialty sector within the retail/repair industry in Christchurch. According to David, the Manager of Rise and Ride, their building did not suffer any damage. Additionally, the organisation experienced a boom in sales and repairs due to interruptions to the business operations of Rise and Ride's competitors whose business operations were impacted by the 2011 Christchurch earthquake. Consequently, market share for Rise and Ride increased, as did their sales. Hence, Rise and Ride did not need post-disaster assistance from the government. The third organisation, Pirate

Treasure, also experienced exponential post-disaster growth and did not need government assistance.

The three organisations, Rise and Ride, Wear-With-All and Pirate Treasure are the exceptions in this study. The remaining research participants in this study received some form of post-disaster government assistance. Post-disaster government assistance, according to some research participants, was instrumental to the survival of their organisations. Thomas, the owner of Hearth stated, “There was a wage subsidy that came out through the Ministry of Social Development. So we received a wage subsidy to help kind of pay ourselves and help put towards paying some of the bills to get through.”

When asked how helpful the wage subsidy programme was for her business, Camille, the owner of Pied Piper stated, “Oh, it was fantastic. Yeah, it was really, really good.” To be sure, research participants were unanimously grateful for the post-disaster wage subsidy programme. Steve Cowdy opined,

One of the greatest things that probably has happened in the Kaikōura quake has definitely been the assistance from the government. So they gave \$500.00 per staff member per week for businesses to survive. That enabled us to pay our staff. So if we didn't have that . . .

Bodie is the owner of Maytag Appliance, an organisation in Kaikōura operating in the food/beverage industry sector. When queried about the economic impact to the business caused by the earthquake, Bodie indicated that post-disaster government assistance, specifically the wage subsidy programme, enabled him to remain open and retain his staff. Bodie asserted,

The business package that we got from the government, from the Ministry . . . so that's key – that's pretty much keeping our staff employed. Without that, we would have to come up with a whole new business plan; a different business model. So we probably would have . . . without that, we would have shut the shop and then we'd probably have one other staff member.

Similar praise was given by Southern Man who said that, “Government did a sterling job supporting local businesses in town and still are. You know, with the wage subsidy – that

really relieved a lot of dread – it kept our staff here and kept us moving and it kept us operating.”

Gerry, the owner of the Muddy Mongoose in Kaikōura also appreciated the post-disaster assistance he received from the government. Gerry stated, “The government with their wage subsidy package they rolled out straight away helps heaps. That enabled me to keep my staff member in a job, so that was a real bonus.”

Tess, the owner of Barton Stores in Kaikōura, an organisation operating in the retail and hospitality sector explained,

The government and the wage subsidy helped because my two sons didn't take their wage subsidy. They got pocket money out of it and we used the bulk of the wage subsidy to pay the businesses debts, to pay the mortgage – we used it to keep us running.

When asked about the wage subsidy programme, Coleson, the owner of LR, a retail store in Kaikōura asserted, “I don't think I would have survived without that.”

Ralph is a co-owner of Podium, a hospitality sector organisation in Christchurch. Podium suffered massive physical damages during the Christchurch earthquake resulting in a relocation of the business. Ralph shared his experience with the post-disaster government assistance his organisations received in the form of wage subsidies stating,

The government was pretty handy at that point too with a lot of the staff that . . . because we had to just lay everyone off immediately - a lot of the staff. The government came in and gave them benefits straight away to get back gainful employment and get them through again.

Post-disaster government assistance programmes, especially wage subsidy programmes, were instrumental in the post-disaster recovery trajectories of the majority of the research participants in this study. Some participants suggested that the survival of their organisations was directly correlated to the post-disaster government assistance they received, particularly the wage subsidies.

In summary, the post-disaster recovery strategies and methods employed by participants of this study were predominantly through insurance policies and government assistance programmes. For example, research participants expected to be indemnified by their insurance companies for physical damages to their businesses. In contrast, the wage subsidies programme was offered by the government. However, neither wage subsidy programmes nor insurance policies are all-inclusive post-disaster recovery strategies and few research participants engaged in business continuity planning, gaps in their risk management strategies existed. By leveraging their social capital, some research participants were able to fill some of the gaps in their respective post-disaster recovery strategies and trajectories.

### **Social Capital**

Data presented in this section strives to answer the core research question of this study: If and how social capital was used by participating small-to-medium-sized enterprises toward their post-disaster recovery efforts. Extant research related to this topic of inquiry is scarce. Analysis of the data gleaned from the research participants regarding how their organisations responded to post-disaster recovery gaps using their social capital was interesting, informative and intrinsic to the development of theory originating from this research; discussed later in this chapter. A variety of social capital typologies are represented in the captured data.

Conceptually and foundationally, Mark Granovetter's (1973) social capital model (*weak/strong/absent ties theory*) strongly influenced this researcher's conceptual understanding of social capital. Therefore, components from Granovetter's (1973) social capital model were modified and/ or amalgamated with components from social capital models developed by other scholars to develop a social capital model for the purpose of conducting this research. Thus, the concept and term "*bonding*," coined by Gittel and Vidal (1998) was used instead of Granovetter's (1973) term, strong ties. Similarly, the concept and

term “*bridging*,” coined by Putnam (1995) replaced the other Granovetter (1973) term, weak ties. Lastly, Granovetter’s (1973) concept and term, absent ties, was not used initially and was replaced by the concept and term, “*linking*,” coined by scholars from The World Bank (2000). The concept of *latent social capital*, similar to Granovetter’s (1973) absent ties concept is introduced later in this chapter.

### **Bonding social capital.**

Characterised by strong inter-personal relationships, bonding social capital was ubiquitous among research participants in this study. Various sources of bonding social capital were identified and included: *family; friends; staff; civic associations; religious organisations; and neighbours*. Obviously, family and friends were classified as bonding social capital. However, classifying social capital that exists between one person and their staff members, civic associations, and/ or religious organisations was less clear. After some deliberation, a decision was made to classify staff members, civic associations, and/ or religious organisations as bonding social capital because environmental, emotional, and time elements from whence these inter-personal relationships originate are conducive toward the formation of strong inter-personal relationships. Similarly, the decision made to classify social capital between an individual and their neighbours as bonding social capital was also appropriate because of the geo-spatial proximity between neighbours. Moreover, neighbours, together with friends and family, are often the first to respond during emergencies and/ or disasters. Friends, family members and neighbours may also be involved in post-disaster recovery efforts. The assistance provided to research participants through various forms of their bonding social capital varied with respect to the sources, typologies and levels.

### ***Family members.***

The most prevalent form of assistance typology identified among research participants from their family members was *emotional support*. Three participants from Christchurch

indicated that they did not receive emotional support from their family members. Rise and Ride suffered no physical damage from the 2011 Christchurch earthquake and consequently, increased their market share. Sheer Luck is a non-profit advocacy group with an office in Christchurch. Similar to Rise and Ride, Sheer Luck suffered no physical damage from the 2016 Kaikōura earthquake. Lastly, Pirate Treasure, a very small charitable organisation at the time of the 2011 Christchurch earthquake, grew exponentially, post-disaster. Thus, for these three organisations, emotional support and many of the other post-disaster assistance typologies such as labour and financial assistance were unnecessary. Instead, these three organisations provided emotional support outward to individuals and their communities.

However, these organisations represent exceptions in the data set. For example, regarding emotional support, Coleson, the owner of L.R., in Kaikōura stated that, "Moral support actually came in from lots of different ways. Personally, from family and from other people outside." Emotional support received by research participants was provided through phone calls, email, social media, and in-person communications. Some participating organisations are family owned and operated, such as Barton Stores.

Tess, from Barton Stores, stated that her two sons helped with her family business financially by not . . . "taking their wage subsidy." Instead, Tess asserted, they . . . "used the bulk of their wage subsidy to pay the businesses debts; to pay the mortgage. We used it to keep us running." Tess added, ". . . my two sons went to work on the roads and they paid the mortgage. They gave me five hundred bucks a week each; basically, from April all the way to the beginning of December."

Mark is co-owner with other family members of The Cheese Factory in Christchurch. The building that The Cheese Factory operated from was destroyed during the 2011 Christchurch earthquake. Consequently, The Cheese Factory had to relocate. The business and its owners suffered economically for many years due to delays with their insurance

settlement. Regarding post-disaster assistance, Mark, asserted, ". . . we had family and friends . . . they were the ones who are pitching us" adding, ". . . that's the reason why we are surviving."

Regarding friendships and the emotional support they can provide, Charles, the owner of the Sleep Well Motel in Christchurch asserted,

It's always good for people in dangerous or high risk areas to have community groups because a group will give you the strength of unity and the friendships. You can share your burdens; you can share your sufferings and mental . . . Telling someone else your own bad experience is a relieving medical thing that has been proven.

Figure 6.12 (below) illustrates the types of post-disaster assistance received by research participants through the family dimension of bonding social capital. Analysis of the data shows that 27 of the research participants in this study received post-disaster emotional support from their family members as shown in Figure 6.13 (below). Thirteen research participants (43%) indicated family members provided post-disaster labour assistance. Nine participants (30%) received financial support from family members and six participants (20%) indicated family assistance through business opportunities.

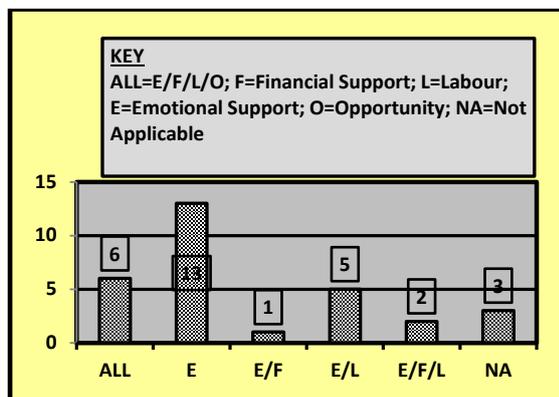


Figure 6.12. Familial assistance types.

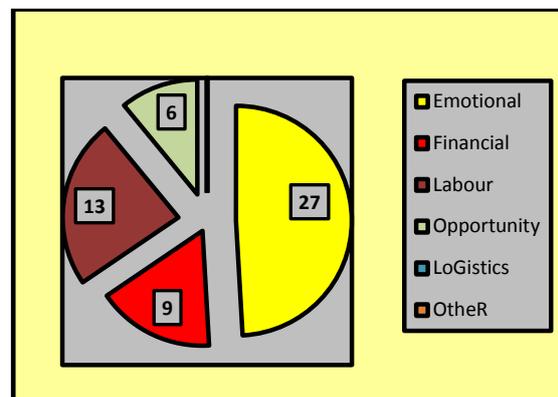


Figure 6.13. Itemised familial assistance types.

Comparative analyses of familial post-disaster assistance received by research participants from Christchurch and Kaikōura are shown below in Figures 6.14 through 6.17. Differences in the familial post-disaster assistance typologies between the research participants from Christchurch and Kaikōura were minimal. The largest differences between

Christchurch and Kaikōura organisations in terms of the post-disaster assistance they received from their family members was not in assistance typology; it was in the levels of assistance provided by family members. The dominant types of familial post-disaster assistance observed included: emotional support, labour, financial support, business opportunities, and logistical support. The most significant differences in post-disaster assistance typology levels among research participants was with financial assistance and business opportunities.

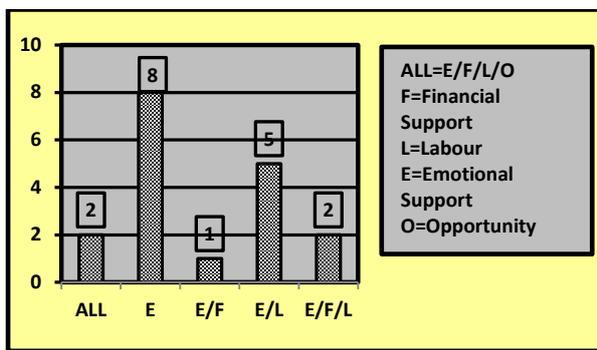


Figure 6.14. Familial assistance types- Kaikōura.

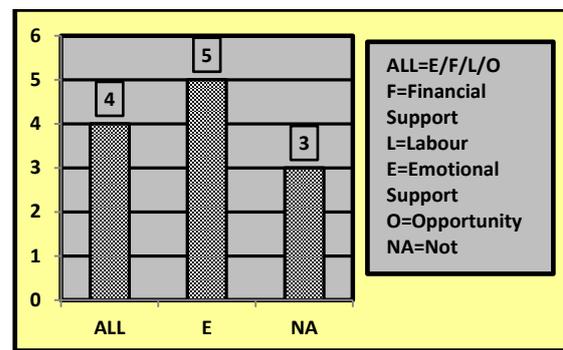


Figure 6.16. Familial assistance types- Chch.

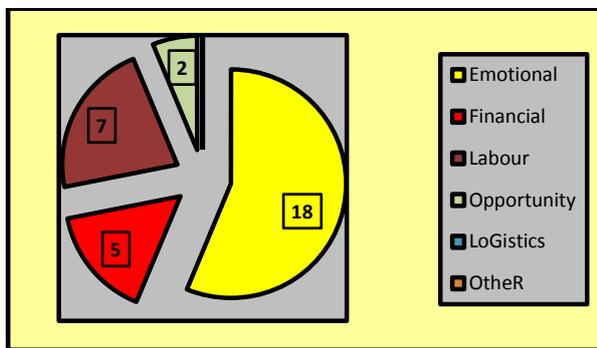


Figure 6.15. Itemised familial assist. – Kaikōura.

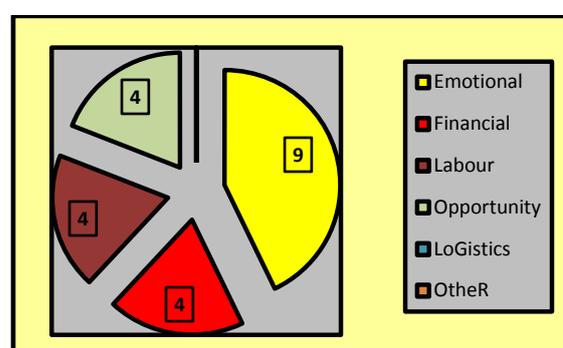


Figure 6.17. Itemised familial assist. – Chch.

For example, 44 percent of research participants from Christchurch reported receiving both financial assistance and business opportunities from their family members. Comparatively, 28 percent of Kaikōura research participants reported receiving financial assistance from their family members; 11 percent reported assistance from their family members through business opportunities. Friends also provided post-disaster assistance to research participants.

### *Friends.*

Post-disaster assistance typologies provided by research participant’s friends includes the same typologies as those provided by family members: emotional support, financial assistance, labour, and business opportunities. Figures 6.18 and 6.19 (below), illustrate the combined typologies and the levels of assistance provided to Christchurch and Kaikōura research participants from their friends. As with familial assistance, the most prevalent form of assistance provided by research participant’s friends, was emotional support (n=25).

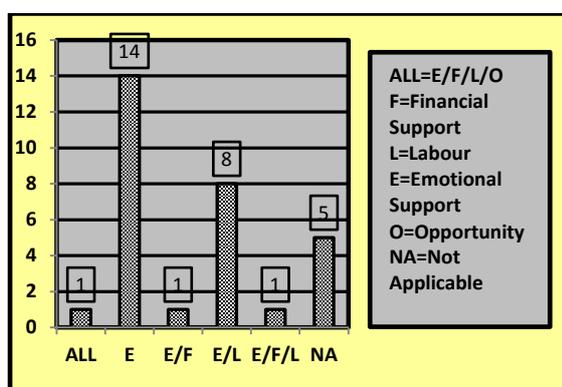


Figure 6.18. Assistance typologies (friends).

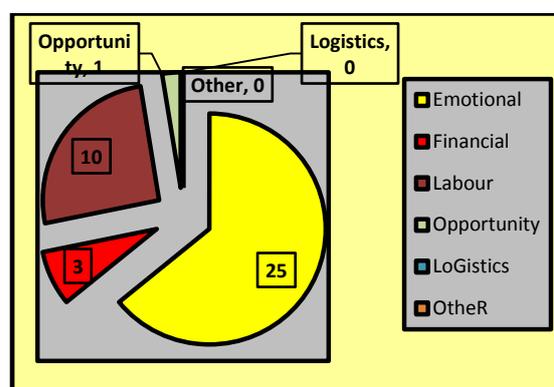


Figure 6.19. Itemised assistance types (friends).

Labour assistance was the second most common form of post-disaster assistance provided to research participants from their friends (n=10). Comparative analyses of post-disaster assistance provided to research participants from their friends showed some variation in emotional support levels between participants from Christchurch (n=7) and participants from Kaikōura (n=18). However, this difference has a mitigating explanation. Five participating Christchurch organisations either did not need emotional support because their organisations were not damaged or because their organisations prospered after the disaster. Financial and labour assistance were also provided by friends to research participants from Christchurch (n=1; n=2) and Kaikōura (n=2; n=8).

The building that The Muddy Mongoose operated from was severely damaged in the 2016 Kaikōura earthquake resulting in a relocation of the business within Kaikōura. Additionally, there were losses attributed to broken and/ or damaged stock. On the topic of

post-disaster assistance from friends, Gerry, the owner of The Muddy Mongoose recalled, “I had lots of offers from friends and family to help . . . and better them to help clear it out and clean up all the broken stuff. I couldn’t face it.”

Regarding moving salvageable stock from the damaged building into the new building, Gerry stated, "I had a lot of help from people. My friends up in Palmerston North were willing to jump on planes and fly down. You know, people were willing to try to get helicopters to fly out and help us, you know?"

Roger owns and operates Vistas, a business operating in the arts and recreation services industry sector in Kaikōura. Vistas, a home-based business, suffered extensive physical damages resulting from the 2016 Kaikōura earthquake to the business and residential property. Roger shared a story about the post-disaster assistance he received from a friend of his from Christchurch.

Five days after the earthquake, a good friend of ours in Christchurch . . . I do a bit of quad biking with them and four-wheel driving. We haven’t done any for a long time and he rung us up and he said, “I wouldn’t mind . . . gas everyone up . . . bring a couple of guys up and give you a bit of a hand to get things in order a little bit. And they rocked up and they had . . . they had eight of them; six vehicles. And there were builders, electricians, plumbers – you name it – they were all there. And they spent the whole day with us pitching up, pulling a chimney out, putting another hot water cylinder back in place, fixing our water supply up, and doing bits and pieces like that.

Pete-the-Monk owns Happy Daze in Kaikōura. Happy Daze also suffered physical damages to its building. Having had a bad experience after the 2011 Christchurch earthquake with his insurance company, Pete-the-Monk does not have faith in insurance. Thus, at the time of the 2016 Kaikōura earthquake, Happy Daze carried no insurance on its building and still does not. Regarding repairs, Pete-the-Monk stated,

Local friends were the ones that gave me a hand with the building. And then I just used loads of the staff I had on that subsidy and changed them from doing [redacted]-type stuff to, you know, plastering walls and bringing bricks and doing those sorts of things.

Pete-the-Monk shared another anecdote regarding post-disaster assistance that his business, Happy Daze received from his friends, stating,

One of the plumbers came around the next day that's a mate of mine and he came around to make sure we had no leaks and [to] patch up anything that could be wrong. And another mate's a builder so he came and shored up anything that needed to be shored up.

Post-disaster assistance from friends came in the form of opportunity for some research participants. For example, Alexander is the owner of Sunson, an organisation based in Christchurch operating in the professional, scientific and technical services industry sector. The building Sunson was operating from was destroyed during the 2011 Christchurch earthquake. Sunson relocated and the business operated from Alexander's home. Alexander shared a story of how a friend of his provided post-disaster assistance to his organisation through a business opportunity.

The contact with the construction company came from a friend of mine, um, more of a drinking buddy that you'd see once a fortnight; so not super close. He's a builder and um, I had been . . . he was out of work and I was . . . I took him out for lunch and we discussed what he could do for . . . I was considering how he could work for us as a project manager. And just . . . he talked about his stuff and we talked about things and it was like two months later he says . . . Oh, I've got this job; I'm calling you in.

According to Alexander, the opportunity his friend provided opened the door to future business opportunities facilitating exponential growth for Sunson during the Christchurch rebuild.

Conversely, Arthur, the owner of Sun Circle in Christchurch, the former parent company to numerous subsidiary organisations that operated in the accommodations and food services sectors prior to the 2011 Christchurch earthquake, viewed post-disaster assistance from friends and family as; essentially, an exercise in futility due to the magnitude of the damages. The buildings owned by Sun Circle from whence its subsidiary businesses operated were destroyed during the 2011 Christchurch earthquake. Regarding post-disaster recovery assistance from friends and family, Arthur pragmatically asserts that,

It was just so massive, you know? I mean, there's a point where there's no practical thing an individual or a group of people can do to assist another person, you know? I mean you can encourage them. You can have discussions with them. You can be a shoulder to cry on but you can't give them a bridging loan to get them to when their insurance comes out. You can't undertake a project for them. I mean, the scale of it is such that you just can't.

Another post-disaster assistance resource for research participants were their staff members.

### *Staff.*

Research participants received post-disaster assistance from their staff members predominantly in the form of moral support and labour. To be clear, labour assistance was not gratis. Among the participating organisations in this research, 27 received subsidised wages from the government. Nevertheless, some research participants reported receiving invaluable post-disaster recovery assistance from their staff. Fifty percent of organisations in Kaikōura reported receiving moral support from their staff members compared to one-third of the organisations in Christchurch.

The post-disaster labour assistance provided by staff to research participants varied between the organisations from Christchurch and those from Kaikōura. Twenty five percent of the organisations from Christchurch reported receiving post-disaster labour assistance from their staff. Kaikōura organisations reported slightly higher levels of post-disaster labour assistance from their staff than Christchurch organisations (39%). Figures 6.20 and 6.21 (below) delineate the post-disaster assistance provided to research participants by their staff. One research participant reported receiving assistance from staff other than emotional support or labour assistance.

Steve Cowdy from Atherstone states that his organisation is largely self-sufficient in terms of food production. Steve states that Atherstone responded to interruptions with their produce suppliers through the assistance provided by his staff. According to Steve,

Immediately from the second of December, there was difficulty getting produce into the town. So, you know, because we grow a lot of our own, we're just basically taking

from all the local . . . from our staff's gardens and we're using our own host networks of staff and also locals.

Camille from Pied Piper also received post-disaster assistance from her staff. Camille stated, "Our staff came in . . . some of our staff. Only the ones who were comfortable doing so came in and helped us clean up."

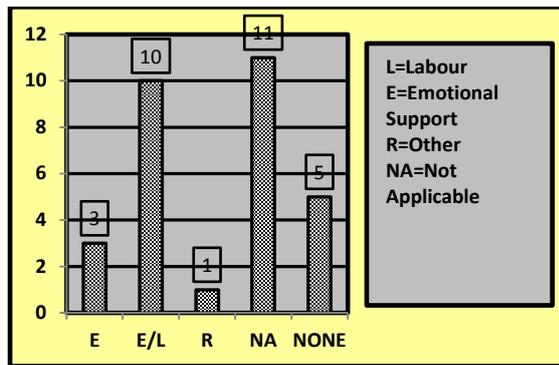


Figure 6.20. Assistance typologies (staff).

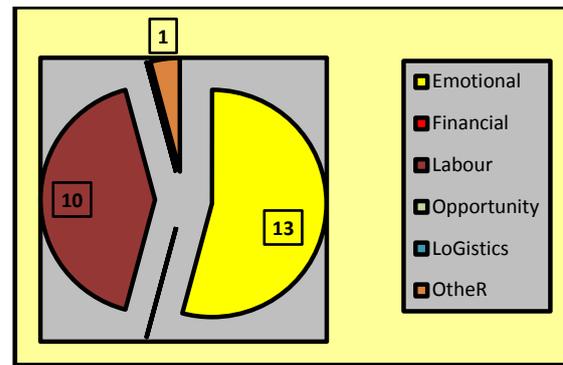


Figure 6.21. Itemised assistance types (staff).

Pete-the-Monk, the owner of Happy Daze, also received post-disaster assistance from his staff members. Pete stated, "I just used loads of the staff I had on that subsidy and changed them from doing [redacted] type stuff to . . . you know, plastering walls and bringing bricks and doing those sorts of things."

Together with staff, Arthur, the owner of Sunson in Christchurch, recovered office equipment immediately after the 2011 Christchurch earthquake. Sharing the traumatic event, Arthur recalls, "We actually went back into the building. . . We went in, grabbed the laptops . . . grabbed the . . . I think there may have been a server, and got out."

Similarly, Coco, the owner of Pisces, a retailer in Christchurch whose building was destroyed in the 2011 Christchurch earthquake, received post-disaster recovery assistance from his staff. Pisces relocated to the Container Mall immediately after the earthquake and operated there for several years before moving into their new location. However, the new location needed to be fitted and decorated. Regarding preparing the new location for business, Coco stated,

We had the staff painting and what have you. One of the staff came in and painted. We didn't have shop fitters; we just had the staff . . . came in and fitted out the shop for us.

Neighbours, whether business or residential, are also sources of post-disaster recovery assistance.

***Neighbours.***

Noticeably different levels in emotional support from neighbours were observed between research participants from Christchurch (n=1) and those from Kaikōura (n=16). For example, one research participant from Christchurch reported receiving emotional support from a business neighbour. Conversely, in Kaikōura, 16 research participants reported receiving emotional support from their business neighbours; two participants also received labour assistance in addition to emotional support. Figures 6.22 and 6.23 (below) represent the combined typologies and levels of post-disaster assistance provided to research participants from Christchurch and Kaikōura by their business neighbours.

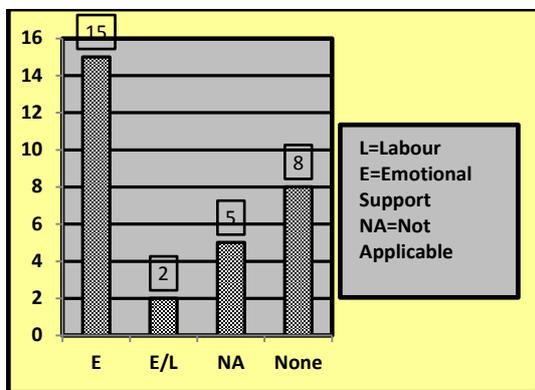


Figure 6.22. Assistance typologies (neighbours).

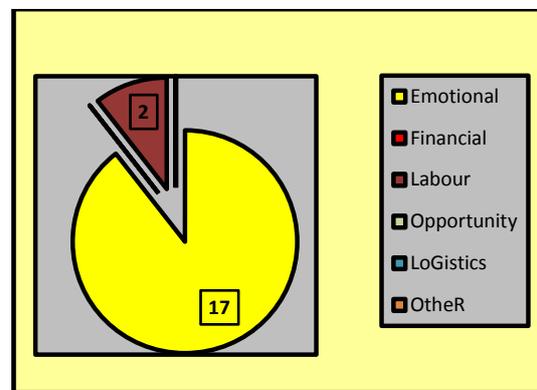


Figure 6.23. Itemised assist. types (neighbours).

Differences in the levels of post-disaster assistance provided to Christchurch and Kaikōura research participants by their neighbours may be attributable to the post-disaster prosperity enjoyed by some organisations. Another explanation may simply be the magnitude of the physical damage caused by the 2011 Christchurch earthquake. The 2011 Christchurch earthquake caused significant, wide-spread physical damages throughout the city.

Comparatively, the 2016 Kaikōura earthquake caused much less physical damage than the 2011 Christchurch earthquake; albeit larger in magnitude.

Some research participants from Christchurch suffered significant damages or destruction to their and/ or their neighbour's buildings during the 2011 earthquake (n=7). The scale and magnitude of the damages resulting from the 2011 Christchurch earthquake may have rendered post-disaster recovery assistance from neighbours futile. Interestingly, although more participating Kaikōura organisations (n=9) suffered physical damage to their buildings than participating Christchurch organisations (n=7), the physical damages to the buildings were less severe. Therefore, research participants from Kaikōura were able to return to their buildings, clean up and resume operations faster than research participants from Christchurch. Regardless, for Beeni, the owner of Starlight, a retailer in Kaikōura, the post-disaster emotional support reciprocating back and forth between her and her neighbouring business owner was, "therapeutic."

Pete-the-Monk fondly recalled the post-disaster assistance that his neighbours provided after the 2011 Christchurch earthquake at his home there.

I was down there for the first one in Christchurch and I've got a house down in Christchurch. Yeah, I learned down in Christchurch, I've got bloody good neighbours and I learned just how good they were when, you know, when the shit hit the fan and they went in and cleaned up all my house for me and, you know, generally looked after everything and, you know, I know how good they are and I knew how good they'd be but it was nice to have it proved to me. I don't knock around with them socially or anything but by God they're bloody good neighbours.

Post-disaster assistance from neighbours was less tangible than post-disaster assistance received from family members, friends and staff. Perhaps expectedly, emotional support levels from neighbours were significantly lower than they were from family members and friends. However, they were higher than the levels of emotional support provided by staff. Another possibility is that some organisations prospered after the 2011 Christchurch earthquake and simply did not need, seek or receive post-disaster assistance.

Consider the four organisations from Christchurch that prospered after the 2011 Christchurch earthquake. Two of those organisations suffered no physical damage from the earthquake. The third did suffer physical damage but used the earthquake event as a window of opportunity to reorganise and rebuild the organisation bigger and better than it was prior to the earthquake. The fourth organisation that prospered as a direct result of the 2011 Christchurch earthquake operates in the professional, scientific and technical services industry sector. Although the office of the organisation was destroyed by the 2011 Christchurch earthquake and the participant had to operate his business from his home, the organisation's revenues increased by 2500 percent; post-disaster. Thus, this participant clearly did not need, seek or receive any post-disaster assistance from neighbours.

Presumably, organisations that experienced post-disaster economic growth would not need post-disaster assistance from their neighbours. If a prospering organisation did need post-disaster assistance from their neighbour, it would likely be to a lesser degree than for an organisation struggling financially, post-disaster. Civic associations are particularly conducive social environs for bonding social capital. The next section examines if and how civic associations provided post-disaster assistance to research participants in this study.

### *Civic associations.*

Civic associations such as the Masons, the Lions, the Rotary Club, and others were not well-represented in the data set (n=2). Two of the 30 research participants indicated that they received some form of post-disaster assistance from civic associations. Only one research participant, Charles, the owner of Sleep Well Motel in Christchurch, is an active member of a civic association.

Charles spoke fondly of membership in his civic association and presented it as a network that reaches across the globe. Charles stated he believes that membership in his civic association provides benefits to his organisation, generally and that the post-disaster

assistance he received from the civic association was emotional support. However, Sleep Well Motel was one of the organisations that prospered and had no physical damage to its structure. Thus, this organisation did not need tangible post-disaster assistance.

Gerry, the owner of The Muddy Mongoose in Kaikōura, received post-disaster assistance from a civic association in Kaikōura. Members of a local civic association assisted him by cleaning up and hauling debris. However, Gerry reciprocated by making a charitable contribution to the civic association. Thus, the post-disaster assistance Gerry received from the civic association in Kaikōura was; essentially, purchased.

The low levels of post-disaster assistance provided to research participants from civic associations was not surprising because the majority of the research participants lacked this form of bonding social capital; they are simply not active members of civic associations. Religious organisations are similar to civic associations with respect to their socially conducive environs for bonding social capital. The next section analyses post-disaster assistance provided to research participants by religious organisations.

### ***Religious organisations.***

Similar to civic associations, religious organisations were not well represented in the data set (n=3). Three research participants indicated that they received post-disaster assistance from religious organisations. The post-disaster assistance provided to research participants from religious congregations varied and included emotional support, labour assistance, and other forms of assistance.

Tess, the owner of Barton Stores in Kaikōura, was in the United Kingdom when the 2016 Kaikōura earthquake struck. Barton Stores and the personal residence belonging to Tess both suffered minor physical damages. Tess recalls the post-disaster assistance that her local church congregation provided.

The shop was a complete mess. The house was a complete trashed mess. So we had people that I know through church came up; a couple came up for an hour. I arrived

back in town on the Wednesday evening. They came up on the Saturday and helped me do a little bit in the kitchen which was really good.

Tess added, “Church does more for me, personally, than the business. But that in turn benefits the business.”

Charles, the owner of Sleep Well Motel in Christchurch, is a deeply connected leader in his ethnic community consisting of South Asian immigrants. Through his active roles as a business owner, the leader of a local civic association and the leader of his immigrant community, Charles accumulated a tremendous amount of bonding social capital. Charles shared an experience he had on the day of the 2011 Christchurch earthquake while at the airport with his wife. The two had driven their spiritual advisor to the airport to board a flight. Charles, in his own words, recalls,

We were waiting for the flight and the earthquake suddenly started shaking. I was standing next to a big support column. We were all around there holding on to the column. If it came down we would have been gone. But, it was built solidly otherwise lots of people would have died. Unbelievable! But it was shaking. No problem. And the [spiritual leader] said, “Hey, don’t worry. There’s a spiritual master right next to you. I think I can remember something like this in my previous life,” he said. “It has happened. I know. Don’t worry. It’s all safe.”

Whether or not the spiritual advisor was providing emotional support to Charles, providing himself emotional support through self-talk, or was in need of and receiving emotional support from Charles and his wife is unclear. Perhaps the emotional support was reciprocal at that moment in time and space under the circumstances.

Ynwie is the General Manager of Pirate Treasure, a retailer in Christchurch whose connections to religious organisations are more than spiritual. According to Ynwie, Pirate Treasure is “. . . a Christian-based organisation, so we rely a lot on churches and church groups.” Post-disaster assistance received by Pirate Treasure from religious organisations was instrumental and systemic for this organisation’s post-disaster recovery trajectory and growth and continues to be a major source of support for the organisation. Regarding the exponential

post-disaster growth experienced by Pirate Treasure, Ynwie states, “The earthquake gave us an incentive to actually expand the business.”

Research participants leveraged various forms of bonding social capital during the post-disaster phase of these two earthquake events. Family members, friends, neighbours, staff members, civic associations, and religious organisations provided differing post-disaster assistance typologies and levels. The post-disaster assistance typologies reported include emotional support, financial assistance, labour assistance, business opportunity, and other miscellaneous forms of assistance.

**Table 6.1. Post-disaster bonding social capital typologies and levels.**

	Emotional	Financial	Labour	Opportunity	Other
FAMILY	27 (90%)	9 (30%)	13 (43%)	0	0
FRIENDS	25 (83%)	3 (10%)	10 (33%)	1	0
STAFF	13 (43%)	0	10 (33%)	0	1
NEIGHBOURS	17 (57%)	0	2 (7%)	0	0
CIVIC ASSOC.	1	0	1	0	0
RELIGIOUS ORG.	2	0	1	1	0

The most prevalent form of post-disaster assistance provided through bonding social capital was emotional support followed by labour assistance and financial assistance. Table 6.1 (above) delineates the bonding social capital typologies and levels reported by the research participants in this study. The next section presents the research findings related to *bridging social capital*.

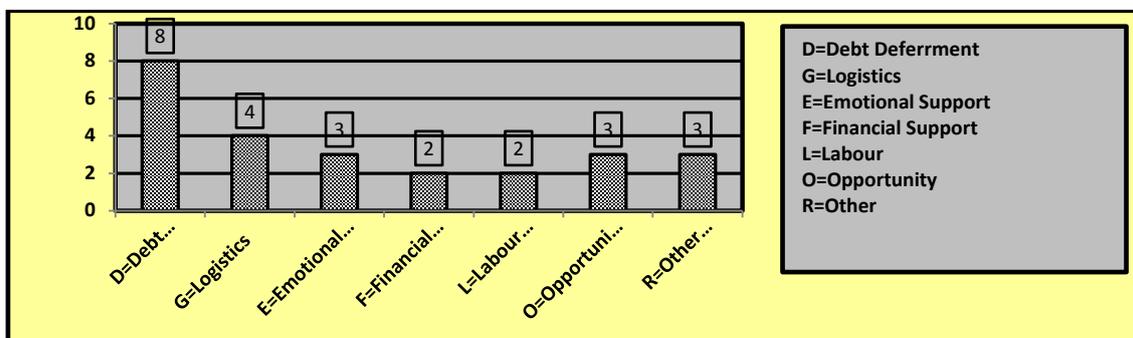
### **Bridging social capital.**

Bridging social capital is characterised by weak interpersonal connections. Sources of bridging social capital include: vendors and/ or suppliers, associates – the *friend-of-a-friend* dynamic – and customers. The decision to include customers in the bridging form of social capital versus the bonding form of social capital was made because the majority of organisations are not relationally, emotionally or proximally close with their customers. To be sure, customers can also include family, friends, staff, and/ or neighbours of organisation

principals. Yet, the majority of organisational revenues are not generated by sales to family members, friends, staff, and/ or neighbours. Thus, customers were categorised under bridging social capital. This section on bridging social capital begins with the post-disaster assistance provided to research participants from their vendors and/ or suppliers.

***Vendors and Suppliers.***

Many research participants reported receiving varying forms of post-disaster assistance from their vendors and/ or suppliers. The post-disaster assistance typologies provided to research participants from their vendors and/ or suppliers included flexibility in debt repayment through deferment; logistical support; emotional support; financial support; labour assistance; business opportunities; and other forms of assistance. The most common form of post-disaster assistance provided to research participants from their vendors and/ or suppliers was debt deferment (n=8). Figure 6.24 (below) delineates the post-disaster assistance typologies and levels provided to research participants from their vendors and/ or suppliers.



**Figure 6.24. Itemisation of post-disaster assistance provided by vendors and/ or suppliers.**

Differences in the types of post-disaster assistance that were provided to the research participants from their vendors/suppliers were noted between the participants from Christchurch and participants from Kaikōura. Whereas, organisations from Christchurch reported assistance typologies that included debt deferment, emotional support and other forms of post-disaster assistance, the organisations from Kaikōura reported receiving much more diverse post-disaster assistance typologies from their vendors and/ or suppliers. Figures

6.25 and 6.26 (below) delineate vendor/supplier post-disaster assistance typologies and levels received by Christchurch organisations and Kaikōura organisations; respectively. The post-disaster vendor/supplier assistance category, *not applicable* (NA), denotes the lack of vendors and/ or suppliers for the organisation. That is, those organisations do not use vendors or suppliers on a regular, ongoing basis. The designation *none*, denotes the existence of vendors and/ or suppliers. However, no post-disaster assistance was received by these research participants from their vendors and/ or suppliers.

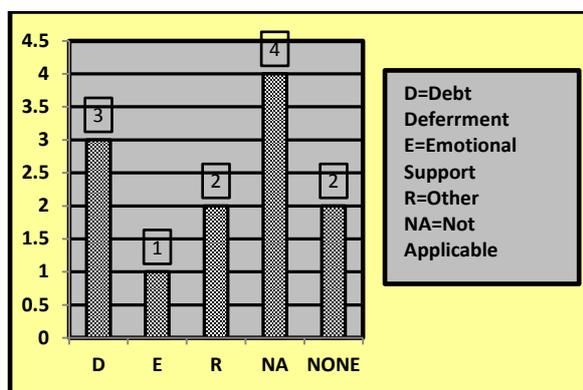


Figure 6.25. Post-disaster assistance received from vendors/suppliers (Christchurch).

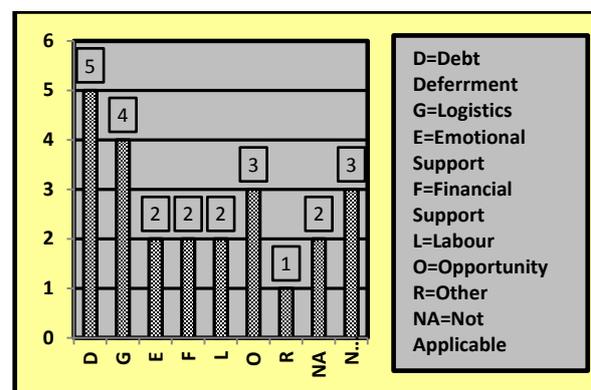


Figure 6.26. Post-disaster assistance received from vendors/suppliers (Kaikōura).

The research participants that received post-disaster assistance from their vendors and/ or suppliers reported high levels of appreciation and praise for the post-disaster assistance they received; particularly the debt deferrals. For example, Sam, the co-owner of Finnegan’s, an organisation in Kaikōura operating in the transport, postal and warehousing industry sector, praised the post-disaster assistance his vendors and/ or suppliers provided in the form of debt deferral, stating,

Some of the people that we dealt with were exceptionally kind in giving us breathing space in terms of invoicing. You know, it was quite phenomenal really that some of them . . . you know, who we . . . I mean, we’re talking some pretty substantial accounts, where they said, “Look, don’t worry about that. Don’t panic.” Because at that time, we had things that we just had no way of making good those accounts and so we relied on their goodwill and that was pretty amazing in those early weeks.

Similarly, Pat, the owner of Blue Diamond, a Kaikōura organisation operating in the retail trade sector, received post-disaster assistance from his primary vendor/supplier in the

form of debris clean-up, debt deferments, order cancellations, emotional support, and insurance claims assistance. Additionally, Blue Diamond enjoyed high levels of bonding and bridging social capital. Notwithstanding the post-disaster support received from their vendors and/ or suppliers and their high levels of bonding and bridging social capital, Blue Diamond was unable to sustain its operations because of the closure of State Highway 1 and has permanently closed its doors.

Although physical damage to Atherstone in Kaikōura was minimal, as with most organisations in Kaikōura, the closure of State Highway 1 severely impacted the organisation. Unable to receive stock from their vendors and/ or suppliers overland, Steve, the General Manager stated,

Our providers were, when I talked to them . . . they, you know . . . helped by sending stuff to Christchurch and then getting it flown in and they wouldn't charge us extra for fees and that sort of thing, so they were very accommodating and helpful.

Camille, the owner of Pied Piper in Kaikōura, stated that she received post-disaster assistance with logistics from one of her suppliers in Christchurch. According to Camille, out of frustration, one of her suppliers from Christchurch contacted the office of New Zealand Parliamentary Member for Ilam, Gerry Brownlee, to express a grievance about the logistical problems associated with moving supplies into Kaikōura. The supplier spoke with Gerry Brownlee's secretary and found a sympathetic ear. According to Camille, "In the end, we got it flown in, basically . . . by helicopter. . . "

Coleson, the owner of LR in Kaikōura recalls the post-disaster assistance she received from her vendors and/ or suppliers. Coleson said, "I made contact with all my suppliers. Some of them made contact with me straight off and offered to take the stock back."

Another Kaikōura organisation, My Regular Stop, also received support from local suppliers in the form of supply product, debt deferment and debt reduction. Bill, the co-owner of My Regular Stop stated that,

The local supplier had some [supply product] that was close to the end of use by date so she said, “If you can use it” and threw it at us. They’re good friends. They had all been supportive. There’s probably a bit of debt out there with no income but bills to pay and they’ve been very supportive on that. So some would, sort of cut the amount or they would go on, “This is what we’ll just cap it at that – you’ll have to pay that and we’ll call it quits.”

Higgins Motel in Kaikōura suffered minimal physical damage from the 2016 earthquake. Camp Mother, a co-owner of the organisation, indicated that emotional support was provided by some of her vendors and/ or suppliers. Camp Mother stated, “. . . there was a lot of our suppliers just emailing going, you’re probably not going to get this soon but just wanted to let you know we’re thinking of you.” Camp Mother spoke of another vendor/supplier that provided tangible post-disaster assistance extending far beyond emotional support.

According to Camp Mother, this vendor/supplier exerted extraordinary effort to bring supplies into Kaikōura for Higgins Motel over water. Camp Mother recalled the effort of this vendor.

At one stage the guys that [redacted - suppliers] . . . actually got a boat . . . through connections had a boat and brought some . . . [redacted - supplies] in via a boat. Got it so far and then got it on a car or transport or something.

Camille, the owner of Pied Piper, recalling post-disaster assistance provided to her organisation by their booking agencies said,

Our booking agencies . . . they were really good. You know, got on board and just said, “Look, what do you need? What are you doing” type thing? And it’s like, we just need to cancel as much as possible. And they helped out as well.

Pisces, an organisation in Christchurch also received post-disaster assistance from its vendors and/ or suppliers in Australia. Coco, one of the owners of Pisces stated,

Our suppliers, who are mainly in Australia now . . . there were more of them in New Zealand at the time . . . most of them have shifted their warehousing to Australia - the large places. They were almost; universally, very helpful. They extended our credit.

Canye, the manager of Coptic Cuisine in Christchurch, spoke about receiving post-disaster assistance from one of his suppliers. After the 2011 Christchurch earthquake

destroyed the building from whence Coptic Cuisine was operating, a new location for the business was found. However, to resume operations, the organisation needed supplies. Having liquidated assets to re-establish the organisation, the organisation was struggling financially and needed assistance from suppliers in the form of extended credit. However, extensions of credit from vendors and/ or suppliers were not forthcoming as vendors and suppliers demanded pre-payment for supplies after the earthquake. Despite having had long-standing relationships with many of its vendors and/ or suppliers, Coptic Cuisine found that the vendors and/ or suppliers that had previously extended credit to the organisation were no longer willing to do so. That is, except for one. According to Canye, he has known and worked with this particular supplier for a long time. The supplier organisation extended credit to Canye's organisation for three months so that Canye could re-establish his business after the 2011 Christchurch earthquake. According to Canye,

The supplier . . . I know them long time . . . his company – him. His family supported me. He is the only person in Christchurch . . . he [extended] credit for the supply . . . three months he gave me credit to establish my business. Then I can pay him back.

Ralph is the co-owner of a family-owned and operated Christchurch business called Podium. After the 2011 Christchurch earthquake destroyed their building, Podium relocated to a new location. Although Podium had excellent insurance coverage for their losses, the organisation needed post-disaster assistance from their vendors and/ or suppliers to re-establish the organisation. According to Ralph,

A lot of the suppliers were out to help us. You know, people were pretty decent with bills and paying bills and that sort of stuff. I certainly felt supported by everyone we had done business with.

Mark is the owner of Maytag Appliance in Kaikōura. Maytag Appliance operates in the manufacturing sector. The 2016 Kaikōura earthquake resulted in massive loss of stock for Maytag. Additionally, the closure of State Highway 1 significantly reduced trade in

Kaikōura. Mark shared his experience with the post-disaster assistance he received from one of his vendors and/ or suppliers stating,

We had . . . a designer stepped-up and looked after our social media and filtered all the queries through emails because we got a huge amount of different offers and because we're so busy just struggling with the disaster, she took on that responsibility.

Mark added, "We had [name redacted]. They helped us out with freight to Blenheim."

Maytag Appliance also markets through festivals. After the earthquake, the festival vendors offered their support. According to Mark, "We've had help from . . . we've done work with festivals. So, the festival people have done lots of marketing for us. They provided our sites for free at the festivals and in the portal."

Vendors and/ or suppliers provided post-disaster assistance to some of the participating organisations in this research. Debt deferment was the primary form of assistance provided to research participants from their suppliers and vendors followed by logistical assistance and emotional support. Another source of post-disaster assistance provided to research participants through bridging social capital was from *associates*.

#### *Associates.*

The *friend-of-a-friend* social dynamic is represented categorically under bridging social capital as *associates*. Associates may open pathways to additional post-disaster resources and assistance by connecting individuals and/ or organisations to other individuals and/ or organisations that do not have existing relationships. Research participants reported receiving post-disaster assistance from associates. The dominant form of post-disaster assistance provided by associates to the research participants were business opportunities (n=6). Emotional support (n=2), financial assistance (n=1) and labour assistance (n=1) were also post-disaster assistance typologies provided to participating organisations from their associates. Organisations from Kaikōura reported higher levels of support from their associates than organisations from Christchurch as shown in Figures 6.27 and 6.28 (below).

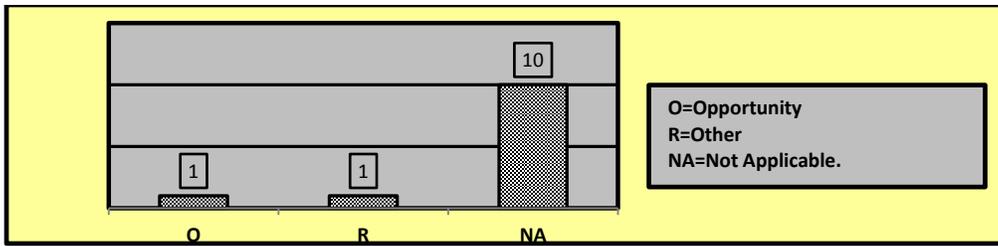


Figure 6.27. Post-disaster assistance typologies and levels from associates (Christchurch).

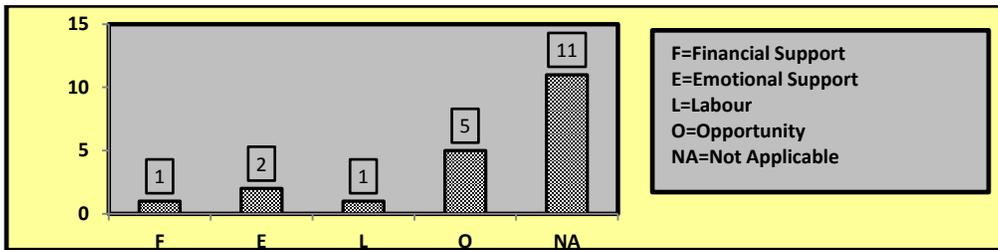


Figure 6.28. Post-disaster assistance typologies and levels from associates (Kaikōura).

The post-disaster assistance provided by associates to research participants vis-a-vis business opportunities enabled some participants to continue their business operations and generate income; particularly important for organisations in Kaikōura that were isolated because of the closure of State Highway 1. For example, the building that The Muddy Mongoose operated from was severely damaged in the 2016 Kaikōura earthquake necessitating a relocation of the business. According to Gerry, the owner of The Muddy Mongoose, an associate provided him with post-disaster assistance by offering him a building from whence to continue operations. Gerry stated,

There was a big old building where I used to have my shop and I moved out of there and [another business] moved in. They [the building owners] had about 2/3 of the space left that they weren't using that was going to be [used for some other business) . . . and the people [that agreed to rent the other space] pulled the pin on that when the quake started so they offered it to us and we took it.

Camille, the owner of Pied Piper in Kaikōura, also benefited from post-disaster assistance provided by her associates. Camille, recalled that, “. . . there was one other person who was a friend of a friend who flew in [redacted - supplies] for us so [we] were able to give people

[redacted - product], which you know, was a real luxury thing at the time.” Camille recalled another time when an associate provided her organisation with post-disaster assistance stating,

Our real estate agent . . . her son, actually also got [redacted - supplies] through to us because he was able to drive. He was a builder and he was doing work in Cheviot and he was able to use the farm roads to get through to Cheviot and he brought [redacted - supplies] back with him for us as well, which was provided by [our supplier]. They met at Cheviot and he loaded up the back of his Ute.

Tess, the owner of Barton Stores in Kaikōura, said that one of her associates provided her with an opportunity after the 2016 Kaikōura earthquake to help her sell products. The associate agreed to begin stocking products from Barton Stores on a consignment basis. Additionally, Tess reported receiving emotional support from her associate.

Bodie, the owner of Maytag Appliance in Kaikōura received numerous post-disaster opportunities from his associates. In one case, Bodie stated,

We’ve got an investor/mentor from Blenheim and he sort of took on sort of a Directorship/ General Managing role fielding queries as well and starting to open up opportunities for us. So he would . . . say we got . . . for example, we got offered free [redacted] or free manufacturing, then he would do all the communication with them while we were busy on the ground in Kaikōura.

Bodie also received emotional support and financial assistance from his associates. For example, Bodie advised, “. . . we had . . . someone set up a *Give-a-Little* page and we got \$21 grand from that.” Bodie added, “We’ve had offers in the Waitakere for [redacted - manufacturing our product] . . . So, that’s all free, we just have to pay for labour.” The amount of post-disaster assistance and support Bodie received from his associates was remarkable. Bodie spoke about another opportunity provided to him by an associate stating,

We got given a [redacted] plant, which is pretty amazing . . . so that’s the building and equipment, which is up in Blenheim and we’re looking at trying to get that. It’s quite a lot of work involved getting it set up with consents, but we’re trying to get that set up.

Another source of post-disaster assistance through the bridging type of social capital provided to research participants was from their customers.

*Customers.*

Customers provided post-disaster assistance to some research participants (n=13). Assistance typologies included emotional support (n=5); financial assistance (n=3); labour (n=1); business opportunity (n=1); and other forms of assistance (n=3). For example, Bodie from Maytag Appliance in Kaikōura, credits the many referrals he received to his customers stating, “We get a lot of referrals from . . . I guess you call them [redacted] or people that just are naturally inclined to sell and then they endorse your product.”

Thomas, the owner of Hearth in Kaikōura, said that some of his clientele decided to come to Kaikōura to support the community despite the high cost of flying into Kaikōura by helicopter. Thomas stated,

Our client base is such that they’ve got disposable income that some of them, not all of them but some that could say, Yeah, I know it’s going to cost me, you know, \$10,000.00 (NZ) to fly in and fly out but you know, I want to support the community and I still want to have my holiday in this place. Everybody tells me it’s wonderful so I want to go there anyway. So we had some good business as a result from that.

Bill, the co-owner of My Regular Stop in Kaikōura, stated that some of his customers provided assistance to his organisation after the 2016 earthquake by bringing in supplies that enabled the organisation to continue manufacturing their products. Another research participant, Beeni, the owner of Starlight in Kaikōura, received post-disaster support from her business customers. Beeni said, “There was another woman up in Takaka. She’s like, ‘Come on, let’s just put a couple of racks in our café and we’ll just sell some stuff for you.’” Beeni asserted, “I couldn’t have got through without the other shops buying stuff off me.”

Mark, one of the owners of The Cheese Factory in Christchurch, stated that his organisation received an outpouring of emotional support from their customers. Coco from Pisces in Christchurch stated that he received offers of assistance from his customers immediately after the 2011 Christchurch earthquake. Coco stated, “On the day of the quake there were some people in the shop who said, ‘Oh, can we help you tidy up?’ This was before the city was evacuated.”

Ralph, a co-owner of Podium in Christchurch, stated that his organisation received emotional support from his customers and that his customers donated their labour after the 2011 Christchurch earthquake to assist the organisation with its recovery efforts. Ralph stated that, “The people that decorated [redacted] and painted all of the scaffold . . . they were all customers and existing relationships.” Ralph spoke of one customer in particular that was a builder.

According to Ralph,

There’s a guy who [redacted] was a customer from the last location and he took two weeks off work to come here and put in a . . . you know, he’s a builder and he took two weeks off work to put a hammer on and come here and help us physically construct this place. And he didn’t want a thing. He just wanted to help.

Customers provided a variety of post-disaster assistance to the research participants in this study. The type of post-disaster assistance provided by customers was predominantly emotional support (n=5). However, financial support (n=3); labour (n=1); business opportunity (n=1); and other forms of support (n=3) were reported by research participants. The next section addresses *linking social capital*.

### **Linking social capital.**

Linking social capital sources include government representatives and/ or officials. Additionally, professional, trade and advocacy groups are included in the linking social capital

category. Linking social capital represents a potentially very powerful source of post-disaster assistance because it connects individuals to government and/ or interest group resources.

Linking social capital was not a significant source of post-disaster assistance for the majority of the research participants in this study. However, there were a few participants (n= 6) that indicated that they received post-disaster assistance through linking social capital. This section begins with the post-disaster assistance provided to research participants by government representatives and/ or officials.

### ***Government.***

Post-disaster assistance from government representatives and/ or officials does not include the wage subsidy programmes or the grant programmes because these forms of government assistance have been captured elsewhere in the data set. More importantly, the wage subsidy and grants programmes did not require linking social capital for organisations to participate. Thus, these forms of post-disaster government assistance were available to all qualifying organisations affected by the two disasters. Post-disaster assistance typologies provided through government representatives and/ or officials included financial assistance (n=1); logistical support (n=1); and other types of assistance (n=4). For example, Sam, one of the owners of Finnegan's in Kaikōura stated,

We're dealing with things like the marina which is a Council-owned facility and there's been a lot of negotiation; a lot of 'round-the-table; a lot of talk. There have been very heated moments because we've had government representation on there. I think . . . you know, we have formed relationships that we wouldn't have ever formed if it hadn't have been for the earthquake.

Mentioned earlier in the vendor/suppliers section was Pied Piper from Kaikōura and the post-disaster logistical support provided by government. In that case, supplies were flown in from Christchurch by helicopter by direct order of Gerry Brownlee, a Member of the New

Zealand Parliament (MP) representing Ilam. According to Camille, the owner of Pied Piper, one of her vendors contacted Gerry Brownlee's office "because he felt that what was happening was ridiculous and in the end we got it [supplies] flown in; basically, by helicopter. . . "

Pete-the-Monk, the owner of Happy Daze in Kaikōura, also benefited from social capital linking him to government. As stated in the section on associates, for years Pete-the-Monk was having difficulty receiving assistance from the Earthquake Commission – a government entity responsible for providing residential insurance to New Zealand citizens – regarding compensation arising from the 2011 Christchurch earthquake. That is, until Pete-the-Monk connected with his friend whose son worked for the New Zealand Earthquake Commission at the time. Pete-the-Monk leveraged the social capital he had that linked him to a government representative and subsequently, received his insurance pay out. Pete-the-Monk recalled,

Well, I was at a bloody piss out with one of my bloody . . . one of my mates has got a law firm and I was sitting next to his son and I said, oh, tell me [name redacted], what do you do these days? And he said, oh, I work for EQC [New Zealand Earthquake Commission]. I said, oh, what part of EQC do you work for? And he said, oh, I'm in the [redacted] department. I said, well, here's one for you. And I bloody wrote it out on a napkin and he said, oh fuck, you'll have that bloody check by Wednesday. This was on Saturday night. And (unintelligible) if I didn't have that check by Wednesday.

Conrad, a manager from Sheer Luck, an organisation operating in the professional, scientific and technical services sector, stated that his organisation has been working with government representatives and/ or officials regarding post-disaster government assistance on behalf of their clients affected by the 2016 Kaikōura earthquake. Conrad stated,

We've been working with the local Mayors of the rural areas and applying pressure to government around support packages, quite successfully I think. We've got a line into the officials, so . . . that's . . . we need to work both channels because whatever is decided in terms of response, whether it's a fund or whatever, it will be enacted and administered by the officials, so . . . And we can sort of predict how this was likely to go.

Professional, trade, and advocacy groups represent another potential source of post-disaster assistance provided through linking social capital.

***Professional, trade, and advocacy groups.***

Post-disaster assistance provided to research participants by professional, trade, and/ or advocacy groups was the most under-represented category of social capital that research participants in this study leveraged toward their post-disaster recoveries (n=4). The types of post-disaster assistance that was received by research participants included emotional support (n=1); business opportunity (n=1); and other forms of assistance (n=2). There was not significant variation between the Christchurch and the Kaikōura research participants in terms of post-disaster assistance typologies or levels that they reported receiving through linking social capital.

One research participant that reported receiving post-disaster support from a professional, trade, and/ or advocacy group is from Christchurch. The other three participants are from Kaikōura. One of the Kaikōura organisations reported receiving emotional support; another, a business opportunity; the third, some other type of post-disaster assistance.

Hank is the owner of Sea Foam in Kaikōura. Sea Foam is in the manufacturing sector. According to Hank, some of the business owners in Kaikōura created an advocacy and support group for the local businesses. The purpose of this newly created consortium was to collectively voice their concerns regarding the progress of the disaster recovery efforts specific to Kaikōura in the aftermath of the 2016 earthquake. The group was called, *Kaikōura Retail Hub*. Hank stated that he received emotional support from the group.

Bodie, the owner of Maytag Appliance in Kaikōura, indicated that he received referrals from the well-established, governmental, professional, trade, and/ or advocacy organisation, Tourism New Zealand. According to Bodie, “they [Tourism New Zealand] refer us – they’ve

been referring us quite a bit and doing a bit of marketing as well.” Many businesses in Kaikōura took advantage of the membership offer made by the Canterbury Chamber of Commerce to join their organisation, gratis; for one year.

Beeni, the owner of Starlight in Kaikōura, stated that she received post-disaster assistance from The Retail Trade Association, a professional, trade, and/ or advocacy group operating within New Zealand. Beeni stated she appreciates the post-disaster assistance the professional, trade, and/ or advocacy group has provided. According to Beeni, “The guys that are coming up here [from the Retail Trade Association], sort of every couple of weeks since the earthquake – you know, they’ve run workshops . . .”

## **Trust**

Simply stated and conceptually, social capital refers to inter-personal relationships. Intuitively, we all know that strong inter-personal relationships are predicated upon trust. We know this from our own experiences. Previous social capital scholars have identified trust as a component of high levels of social capital (Coleman, 1988, 1990; Fukuyama, 2001; Granovetter, 1985; Putnam, 1995, 2000; Szreter & Woolcock, 2004). This study queried research participants about: (1) the importance of trust in their relationships with other organisations; and (2) their levels of trust in the following institutions: (a) insurance companies; (b) local government (District Council); (c) and Parliament.

Findings from this study confirm well-established extant research regarding trust as it correlates to high levels of social capital (Coleman, 1988, 1990; Fukuyama, 2001; Granovetter, 1985; Putnam, 1995, 2000; Szreter & Woolcock, 2004). However, this study is unique in that research participants were queried about their levels of trust in the specific institutions that were

involved in their post-disaster recovery. Using a Likert-type scale (0-10), research participants rated their trust levels using zero to represent no trust and 10 to represent absolute trust.

### **Importance.**

The research participants unanimously regarded trust as a highly important element in their inter-organisational relationships (n=30). Likert scale ratings from the research participants regarding the general importance of trust with respect to their respective inter-organisational relationships revealed little variation between the research participants from Christchurch (Likert mean score=8.95) and participants from Kaikōura (Likert mean score=9.19). The research participants employed the same Likert-type scale to express their trust levels in government at the local and Parliamentary levels.

### **Government.**

Slightly over one-half of the research participants in this study expressed high levels of trust for government at the parliamentary level (n=17). Several research participants expressed low levels of trust for government at the parliamentary level (n=7). The mean Likert score for the research participants regarding their trust in government at the parliamentary level is 6.48. Broken down by city, the mean Likert score for trust in government at the parliamentary level for research participants in Christchurch organisations is 6.17; for participants in Kaikōura, it is 6.69. Research participants expressed lower levels of trust, on average, for their respective District Councils (local governments) than they did for Parliament.

The mean Likert score for trust levels among the research participants toward their respective District Councils was 5.17. Little variation regarding the average levels of trust in the respective Christchurch and Kaikōura District Councils was reported between research participants from Christchurch (n=5.33) and participants from Kaikōura (n=5.05). Insurance

companies received the lowest ratings from the research participants in this study, in terms of trust, than the other organisations involved in the post-disaster recovery of the participants.

### **Insurance companies.**

The average Likert rating that research participants in this study reported toward their insurance companies regarding trust, was 4.05. The rating given by research participants from Christchurch regarding their trust toward their insurance companies was, 4.29. Research participants from Kaikōura rate their trust in their insurance companies, 3.88; on average.

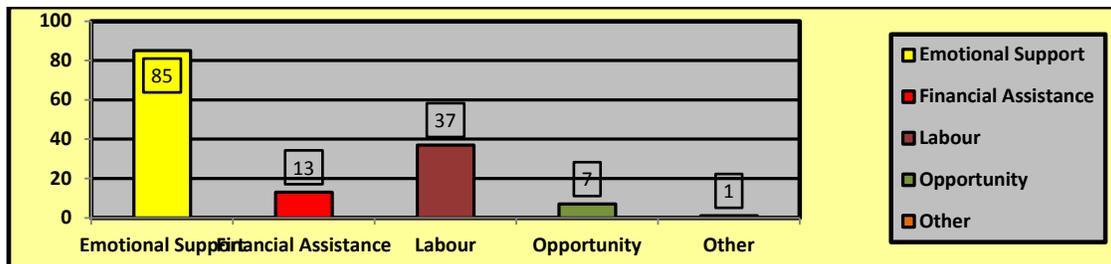
Traditional categories of social capital were represented in the data set of research participants including bonding, bridging and linking social capital. A variety of sources of social capital within each of the social capital categories as well as the levels of social capital were captured in the data and analysed. Verbatim quotes from the research participants provide direct evidence in support of the research findings presented herein and enable the voices of research participants to be recorded. During the process of analysing the data, new theory, grounded in the research data emerged. The next section discusses that emergent theory.

### **Emergent Theory**

The majority of the research participants in this study received post-disaster government assistance in the form of wage subsidies and/ or grants (n=27). To be sure, government assistance was instrumental to the survival of many of the participants of this research. Although all but four of the research participants had business insurance policies at the times of the 2011 Christchurch and the 2016 Kaikōura earthquakes, many of the research participants discovered that their business interruption insurance policies did not provide any level of indemnification if the cause of the interruption to the business was road closure, referred to as an access issue. Similarly, many of the research participants in this study that purchased earthquake insurance

found that their policies did not provide adequate relief due to the extremely high excess costs (deductibles). Thus, in many instances, the insured parties did not make any claims against their earthquake policies despite their need for post-disaster assistance. Other forms of post-disaster assistance were therefore necessary to sustain business operations.

Research participants in this study leveraged various forms of social capital in effort to draw in post-disaster assistance toward sustaining their business operations. Bonding, bridging and linking social capital were leveraged by the research participants to bridge gaps in their respective post-disaster recovery trajectories. The post-disaster assistance that research participants received through their social capital included intangible and tangible forms of assistance. The predominant form of intangible post-disaster benefit was emotional support. The dominant forms of tangible post-disaster assistance reported by the research participants are labour assistance; financial assistance; business opportunity; logistical support; debt deferment; and other miscellaneous forms of assistance. Differences were observed between bonding, linking and bridging social capital with respect to the tangible post-disaster assistance typologies and their levels. Figures 6.29, 6.30 and 6.31 (below) illustrate the differences in the post-disaster assistance typologies research participants reported receiving through their bonding, bridging and linking social capital.



**Figure 6.29. Post-disaster assistance (bonding social capital).**

Post-disaster assistance provided to research participants through their bonding social capital was predominantly emotional support from their family and friends. Labour assistance,

the second most common form of post-disaster assistance, was also predominantly provided by family members and friends. Although staff provided post-disaster labour assistance, the labour was typically not gratis.

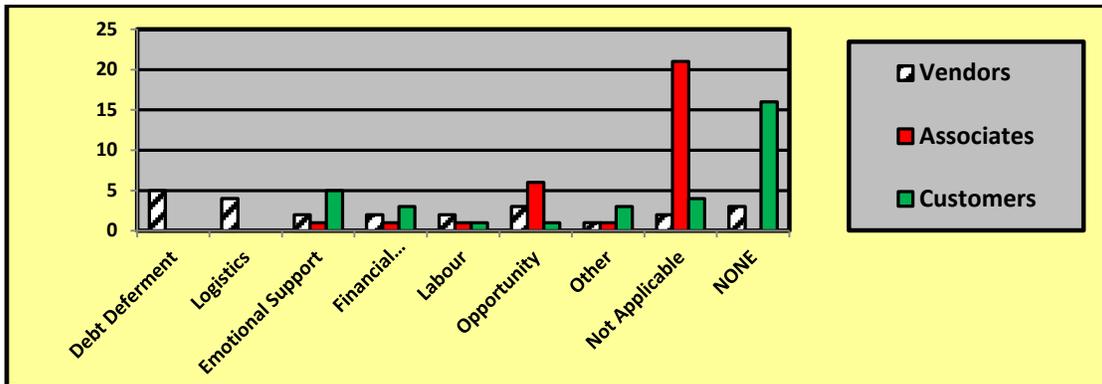


Figure 6.30. Post-disaster assistance (bridging social capital).

Linking social capital provided the lowest levels of post-disaster assistance to the research participants in this study. Most of the research participants did not have access to government representatives or officials. However, a minority of the research participants did successfully leverage their social capital linking them to government representatives or officials that were beneficial toward their post-disaster recovery efforts. Similarly, the post-disaster assistance provided to research participants from religious organisations or professional, trade, and/ or advocacy groups, were negligible. However, this finding might be correlated with the fact that the majority of the research participants are not congregants of religious organisations nor are they members of any professional, trade, or advocacy groups.

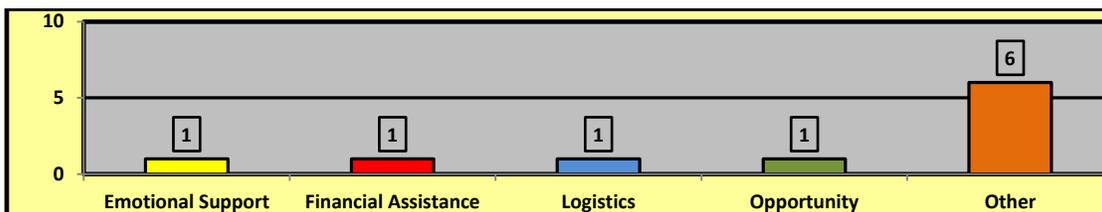


Figure 6.31. Post-disaster assistance (linking social capital).

Bridging social capital provided some research participants with viable, tangible post-disaster assistance. The research participants in this study that leveraged their bridging social

capital toward post-disaster recovery efforts reported receiving assistance such as debt deferment; logistical support; emotional support; financial assistance; labour assistance; business opportunities; and other miscellaneous forms of support. Although the levels of assistance provided to research participants through their bridging social capital are lower, the typologies of post-disaster assistance are more diverse than with the other forms of social capital. Moreover, the post-disaster assistance provided through bridging social capital in the form of business opportunities enabled some research participants to access post-disaster resources and/ or markets that were beyond their market footprints prior to the disasters. This was especially important for participants that were impacted by access issues; a primary obstacle for all organisations in Kaikōura due to the closure of State Highway 1. Business opportunities presented to some participants in this study through their bridging social capital facilitated the recovery and in some cases, the exponential growth of, their businesses. Thus, it is proposed:

***Bridging social capital connects small-to-medium-sized enterprises to more diverse private-sector, post-disaster resources than bonding or linking forms of social capital.***

During the data analysis process, a gap was identified in the bonding, bridging, linking social capital model. Specifically, it was observed that bridging social capital was categorically overly-broad inasmuch that bridging social capital presumptuously snares and incorporates all resources beyond the bridge. Elaborating further, bridging social capital refers to the individuals and/ or organisations that can connect, or *bridge*, Actor A to Actor B; two entities that do not have an existing relationship with each other. Yet, which category of social capital most accurately represents the assistance when it is received from unknown individuals and/ or organisations?

Granovetter (1973) identifies three typologies of social connections: *strong*, *weak* and *absent* ties. Although much research has been conducted toward advancing our knowledge

regarding Granovetter's (1973) strong and weak ties typologies, much less is known about absent ties. In the current research, many tangible forms of post-disaster assistance were provided to participants from individuals and/ or organisations that might be categorised as absent ties under Granovetter's (1973) system of classification. Although Granovetter's (1973) absent ties typology implicitly refers to the absence of any interpersonal connections or *ties*; conceptually, absent ties has ambiguities.

For example, at what point does an interpersonal connection (*tie*) move from the *absent ties* category to the *weak or strong ties* category? Research focused on absent ties is scant for reasons that are intuitive. Nevertheless, this does represent a gap in our understanding of Granovetter's (1973) social ties theory and classification system. This gap caused me to ponder the implications, if any, that this might have on the findings associated with the bonding, bridging, linking social capital model that was adopted for this research.

In some cases, individuals and/ or organisations that the research participants from this study had no pre-existing social connections with provided participants with tangible disaster recovery assistance. However, within the bonding, bridging, linking social capital model, there is no category under which this can be accurately classified. Conceptually, the post-disaster assistance some of the research participants in this study received from; essentially strangers, might have been classified as absent ties under Granovetter's (1973) social interaction model. However, Granovetter (1973) does not specify if, how or when an Actor transitions between the strong, weak, and absent ties categories. That is, how does an Actor move from the absent to the weak ties category or from the weak to the strong ties category?

With the bonding, bridging, linking social capital model that was employed for this study, the post-disaster recovery assistance that some research of the research participants received

from people and/ or organisations whom they did not know, was initially categorised as a form of bridging social capital. Yet, conceptually; bridging social capital did not accurately reflect the phenomenon that was reported. Distinctively important, bridging social capital does not connect Actors to resources. Instead, bridging social capital connects Actors to other Actors that may possess resources. Quintessential to bridging social capital is an individual or an organisation that acts as the *bridge* between the unconnected Actors. According to Granovetter (1973), all bridges are weak ties but not all weak ties are bridges.

Overly-broad in concept, bridging social capital implicitly captures and incorporates every resource, market, organisation, and/ or individual beyond the distal side of the bridge. Similarly, Granovetter's (1973) absent ties concept does not sufficiently define or accurately compartmentalise the social capital phenomenon reported by research participants in this study as it pertains to post-disaster recovery assistance provided to some research participants from, essentially strangers. Thus, an additional category to the bonding, bridging, linking social capital model is proposed. Under the proposed amendment to the existing bonding, bridging, linking social capital model, bridging social capital is parametrically distinguished from the resources that bridges connect Actors to by identifying and taxonomically defining the unknown individuals and/ or organisations that are beyond the distal end of a bridge as an Actor's, *latent social capital*.

### **Latent social capital.**

Conceptually, *latent social capital* refers to social capital that is unknown to an individual and/ or organisation but can be accessed through their bonding, bridging and/ or linking social capital. Latent social capital resides beyond bridge abutments; it is invisible to the Actor at first. Latent social capital has the potential to provide post-disaster assistance resources to

organisations that are less available through their other forms of social capital. Figure 6.32 (below) depicts the post-disaster typologies and levels associated with latent social capital.

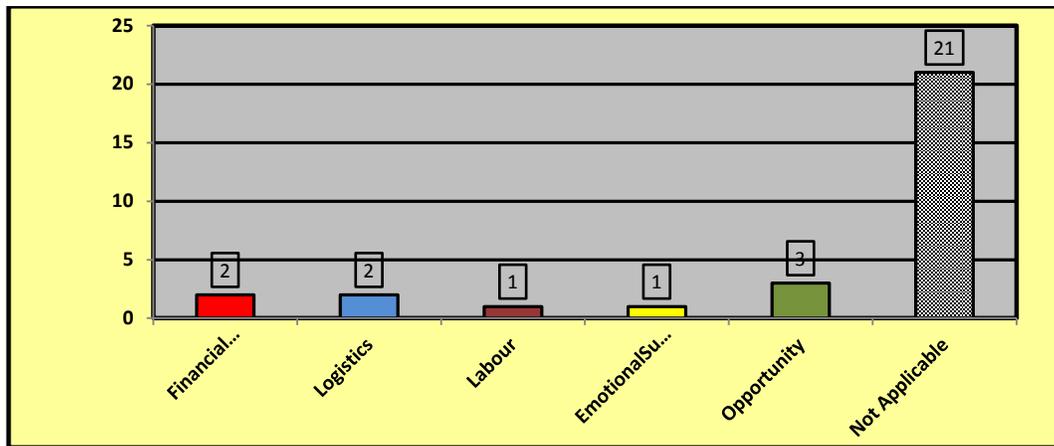


Figure 6.32. Post-disaster assistance typologies and levels (latent social capital).

Post-disaster resources, as with most resources, are not typically stand-alone assets; they are owned and/ or controlled by individuals, organisations and/ or governments. Thus, bridging social capital is not a conduit that connects individuals and/ or organisations to *resources*, per se. More accurately, bridging social capital introduces Actors from one side of a bridge to Actors located on the distal side of a bridge. Actors on either side of a bridge may possess post-disaster recovery resources. Figure 6.33 (below) illustrates the latent social capital concept.

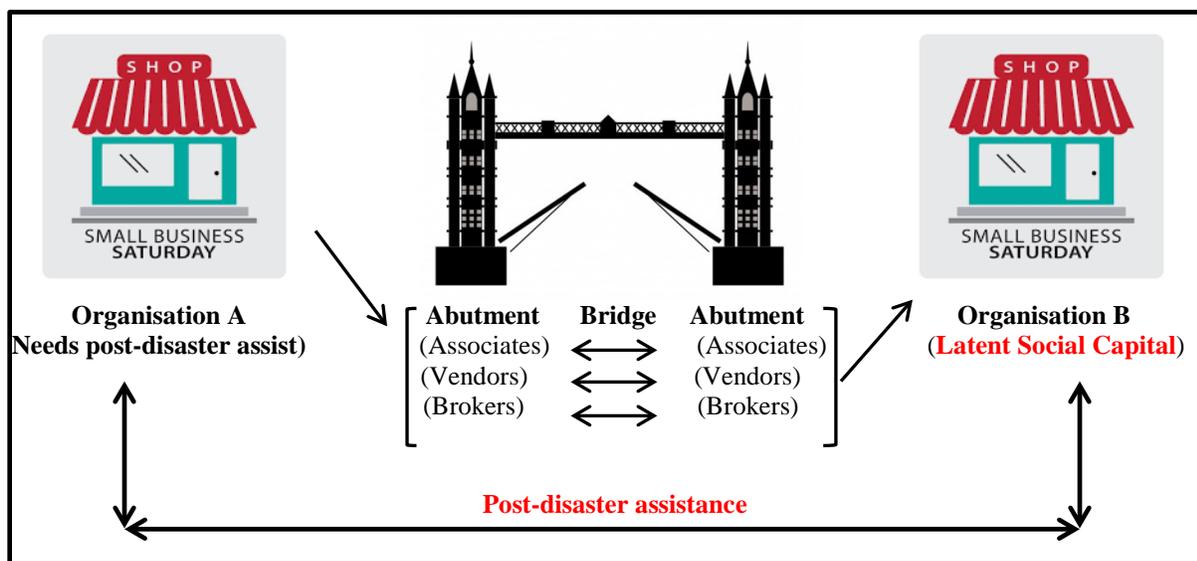


Figure 6.33. Latent social capital model.

This is an important categorical and typological distinction to make because it further defines and compartmentalises the bonding, bridging, linking social capital model that has largely ignored social capital at the organisational level in the research literature. The addition of latent social capital into the existing bonding, bridging, and linking social capital model will help future researchers by targeting the specific social capital typologies that provide the most diverse and highest levels of post-disaster assistance to organisations. Empowered with such information, organisations may strategically target and/ or align themselves with other organisations that can potentially provide diverse and high levels of post-disaster assistance, including new business opportunities if and when necessary. The next chapter provides a more elaborate discussion regarding latent social capital.

### **Chapter Summary**

This chapter provided detailed findings from this research. Organisational demographics from the research participants including the organisation location; the industry sector; the number of years in business; the business legal structure; and the number of staff members employed by the organisation were reported. The risk management strategies of the research participants including business insurance, business continuity planning, and secondary sites were discussed. Findings related to post-disaster government assistance were also discussed. The types of social capital that was leveraged by research participants toward their respective post-disaster recovery efforts were presented. Bonding, bridging and linking forms of social capital were comparatively analysed together with their respective sources and levels of assistance. Tables and Figures accompanied textual presentations to convey large amounts of data efficiently. Findings regarding trust as it pertains to inter-organisational relationships were discussed. Emergent theory grounded in the data was discussed culminating with a proposed categorical

addition to the bonding, bridging and linking social capital model, referred to as, *latent social capital*. The next chapter delves deeper into the more salient findings from this research.

# CHAPTER 7

## DISCUSSION

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## **Chapter 7 – Discussion**

### **Introduction**

Chapter six presented the findings from this study. Discussions accompanied the presentation of the data findings. This chapter further elaborates on the more salient findings and contributions from this research toward the body of knowledge related to social capital. The aim was to identify how small-to-medium sized enterprises in New Zealand leveraged their social capital toward their post-disaster recovery efforts after the 2011 Christchurch and 2016 Kaikōura earthquakes. Synchronised with Chapter six, this chapter begins with a discussion regarding the demographics of the research participants.

### **Organisational Demographics**

The organisational legal structures of the research participants in this study were largely homogenous favouring limited companies (n=24) over partnerships (n=2) and sole traders (n=4). Organisational legal structure did not influence the success of the post-disaster recovery efforts of the research participants in this study. Additionally, the length of time that the research participants had been in business at the times of the earthquakes did not affect the success of their post-disaster recovery efforts. Similarly, organisation size did not affect the success of the post-disaster recovery efforts of the research participants in this study despite extant research suggesting otherwise (Aldrich & Auster, 1986; Chang & Falit-Baiamonte, 2003; Dahlhamer & D'Souza, 1995; Dunaway, 2010; Loscoco & Robinson, 1991; Tierney, 2007; Webb et al., 2000, 2003; Zolin & Kropp, 2006). For example, despite being a franchisee of a large, national organisation, one research participant from Kaikōura never recovered from the disaster and closed their doors permanently several months after the interview for this study.

Intuitively, larger organisations or organisations that have been in existence for a long period of time have more resources that could be allocated toward their post-disaster recovery efforts than do smaller organisations. Additionally, larger organisations may have secondary locations from whence to continue their operations. Secondary sites proved to be an effective risk management strategy for some research participants in this study.

### **Organisational Risk Management Strategies**

The risk management strategies employed by research participants in this study included insurance (n=29); secondary business locations or sites from whence to continue business operations (n=13); and business continuity plans (n=2). Although two participating organisations indicated that they have business continuity plans, those business continuity plans were not made available to this researcher. Therefore, neither the quality nor the extent of those business continuity plans could be assessed or verified. Regardless, the low levels of business continuity planning reported by the research participants suggests that something other than business continuity planning was used by the research participants toward their post-disaster recovery efforts.

#### **Business insurance.**

Although all of the research participants except for one carried some form of business insurance, not all of the participants submitted claims to their insurance companies for losses. The rationale for not submitting an insurance claim depended on the type of damage, the dollar amount and the type of insurance policy that the research participant carried. The research participants that had damage to their business contents stated that the insurance excess (deductible) amount was so expensive that submitting a claim was futile. This was especially

true for research participants that leased or rented the property from whence they operated their businesses.

Several research participants indicated that they were satisfied with their insurance companies (n=8). Ralph, a co-owner of Messier 45 in Christchurch, candidly expressed his sentiments for his insurance company.

We've got a really good relationship with our insurance company. They're an insurance company, so don't kid yourself that they're your friend. When that earthquake happened we had really good, comprehensive insurance and there was no way for the insurance to dispute that. We felt that we got a fair deal out of it in a fairly timely fashion. We were paid out for the plant; paid out for the stock; and then paid out for the business interruption, which I think ran for a year.

The general sentiment for the research participants that expressed dissatisfaction with their business interruption insurance is best expressed through a quote from Thomas, the owner of Hearth in Kaikōura.

We had insurance but it was absolutely no use whatsoever. We did have business interruption as well but that was only going to be triggered by a materials damage claim. So basically, if the buildings are damaged and since they weren't damaged then we couldn't claim anything on the business interruption.

Jerry, the owner of the Muddy Mongoose in Kaikōura, stated that he was advised by his insurance broker not to purchase business interruption insurance. Jerry stated,

. . . It wouldn't work for us unless our business or prime had been completely demo'd [demolished] by an earthquake or a tsunami or we had a fire. So we were advised not to get BI [business interruption]; it wouldn't work for us . . . that all roads in and out of the area would have to be closed up for four weeks before it kicked in. It worked for people's businesses or shops that were red-stickered and they couldn't operate out of them. But for people that could run, it wasn't really going to work at all. The insurance broker actually advised us to put that premium away every year.

At the far end of the spectrum are the research participants that were extremely unsatisfied with their insurance companies, overall. Hank, the owner of Sea Foam in Kaikōura, stated,

Our insurance company forgot to add business interruption insurance to our policy. The insurance companies just don't give a shit. It's best not to trust them at all, especially earthquake insurance. It's just mind boggling how they're even able to get that past governments and all sorts of things.

When asked about her insurance company, Beeni, the owner of Starlight in Kaikōura, candidly stated, "I've found them really horrible to deal with. Insurance . . . the brokers as well; it's just been a nightmare." Similarly, Arthur, the owner of Eclipse in Christchurch asserted, "The insurance companies are abysmal."

Steve Cowdy, from Atherstone in Kaikōura, summarised his experience in working with his organisation's insurance company after the disaster. Steve said,

The biggest loss for us is loss of income. And business interruption insurance . . . I've learnt from this example. I'm very sceptical of it now. I mean; actually, many Kaikōura people have it but they learnt when you go to claim on it how difficult it is to use it. I'd say the trust [in insurance companies] is very low to be perfectly honest.

I wondered why some of the research participants were satisfied with their insurance policy coverage; whereas others were not; and, whether or not the dissatisfaction expressed by some of the research participants with their insurance policy coverage was correlated to the success of their organisation's post-disaster recovery efforts. Following the law of parsimony as to the first part of the question, there are two possible explanations.

The first possible explanation is that people simply do not read their insurance policies thoroughly and carefully. Thus, misunderstandings may have been made by some of the research participants regarding what their insurance policies *actually* provided indemnification coverage against, versus what was *assumed* to be covered. This explanation is plausible because insurance policies contain monotonous boilerplate filled with legalese that is either not read by policyholders or not fully understood. People also often rely upon the advice and/ or opinions provided by their insurance brokers and may elect not to read their insurance policies carefully

and/ or thoroughly. Many of us have made assumptions regarding our insurance policies in this regard.

The second plausible explanation is that a systemic problem exists within New Zealand with respect to how the insurance industry is administered and/ or regulated. However, this seems less plausible than the first explanation. Yet, it is possible that insurance companies operating within New Zealand have not been properly regulated. Perhaps, disclosures regarding business insurance policy coverages are inadequate. Based upon the responses from the research participants in this study, this seems particularly true for business interruption insurance. Previous researchers (Brown, Seville & Vargo, 2016) examined the efficacy of insurance in New Zealand after the 2011 Christchurch earthquake and concluded that “. . . policies could have been clearer to improve customer satisfaction” (p. 22).

Perhaps, business interruption insurance disclosures should more clearly describe the types of business interruptions that are indemnified against, if they do not already do so. Additionally, business interruption insurance policies should clearly and plainly disclose causal factors for business interruptions that are indemnified by the insurance policy versus those that are not. For example, business interruption insurance policies should clearly disclose whether or not road network and other access issues that cause interruptions to a business are indemnified against; again, if they do not already make such disclosures. To be sure, business insurance was a contentious issue for many of the research participants. Secondary sites served as another layer in the risk management strategy stack for some research participants.

### **Secondary sites.**

Thirteen research participants had secondary sites from whence to continue their business operations. Some research participants had pre-existing secondary sites prior to the disaster

(n=8). Other research participants secured their secondary sites after their respective disasters (n=5). Research participants in the current study with pre-existing secondary sites were better able to absorb the shocks from their respective disasters, regroup and continue their business operations than were the research participants that did not have pre-existing secondary sites. Moreover, the study participants that had pre-existing secondary sites experienced smoother and speedier post-disaster recovery trajectories than the research participants that did not have pre-existing secondary sites. This conclusion is supported by the research data based on how close to an organisation was to their normal levels of operation (normalcy) at the time of the interview. A research participant's normalcy baseline was predicated upon their revenue amounts from the 2015 tax year.

Five research participants successfully secured secondary sites after their respective disasters. One participant viewed the disaster as a window of opportunity for organisational expansion. Consequently, that research participant's organisation grew exponentially. Another research participant renovated a temporary location from whence they continued their operations until they secured a more permanent facility.

Two research participants in this study secured their post-disaster secondary sites by leveraging their social capital and a bit of good fortune. One participant leveraged their bridging social capital. The other participant secured their secondary site through the bonding and bridging social capital that they have with a neighbouring business. For this research participant, the result was a collaborative and creative effort to secure a secondary site from whence the participant could continue business operations. The solution was the colocation of the research participant's business within the neighbouring business. That is, two businesses operating from a single shared location.

The practical implications of having pre-existing secondary sites from whence to continue and/ or move business operations in the event of a disaster are intuitive. The ability to continue business operations after a disaster is predicated upon having a location from whence to do so. Similarly, the ability to quickly locate and secure a secondary site from whence to continue post-disaster business operations, in the absence of a pre-existing secondary site, is equally intuitive.

Inversely, the practical implications for not having a pre-existing secondary site or the ability to locate and secure a secondary site after a disaster may have severe consequences as they did for Blue Diamond, a retail business. The building that this business operated from suffered physical damages. Disputes between the owner of the building and the owner's insurance company regarding the fate of the building caused repair delays that impeded Blue Diamond's ability to continue trading. Securing a secondary site compatible to the needs of the organisation under the circumstances proved to be too challenging. Underscoring the importance of pre-existing secondary sites, since the time of the interview with this research participant, the organisation has permanently closed its doors. Government-provided post-disaster assistance was essential to their continued post-disaster operations of the research participants in this study.

### **Government Assistance**

Post-disaster assistance provided to research participants from the government included wage subsidies and grants programmes. New Zealand's Ministry for Economic Development subsidised wages for employees of businesses that were affected by the 2011 Christchurch and 2016 Kaikōura earthquakes. According to a joint press release given on December 9, 2016 by New Zealand Economic Development Minister, Steve Joyce and Social Development Minister, Anne Tolley, full-time employees of organisations affected by the 2016 Kaikōura earthquake

were eligible to receive \$500 per week. For part-time employees, the amount was \$300 per week (Beehive, 2016). This wage subsidy programme was modelled after the 2011 Christchurch earthquake business support package.

Most of the research participants in this study took advantage of the wage subsidy programmes (n=27; 90%). Three participants that did not need post-disaster government assistance included two organisations with post-disaster prosperity and one organisation that elected to pay their employee wages out of their own pockets. It is not known why this organisation elected not to participate in the wage subsidy programme. The fact that 90% of the research participants in this study participated in the wage subsidy programmes offered by the government is testament to its importance toward the continued post-disaster operations of the participants. One such participant is Maytag Appliance. Bodie, the owner of Maytag Appliance, spoke about the wage subsidy programme asserting,

The business package that we got from the government, from the Ministry . . . so, that's key. That's pretty much keeping our staff employed. Without that, we would have shut the shop and then we'd probably have one other staff member.

A Business Recovery Grants programme was also introduced to provide organisations affected by the disasters with post-disaster assistance. However, the number of research participants that applied for and received grants was low (n=5). One participating organisation applied but did not receive a grant.

The post-disaster government support packages provided to organisations affected by the 2011 Christchurch and 2016 Kaikōura earthquakes are unique when compared to the post-disaster government assistance offered to businesses in the United States. For example, I was employed by the United States Small Business Administration, Office of Disaster Assistance for over seven years. In my role with this agency, I deployed numerous times to disaster-affected

areas within the United States to provide post-disaster relief to disaster survivors; many of them businesses. The post-disaster government assistance provided to businesses by the United States government continues to be through low-interest rate disaster loans (Small Business Administration, Office of Disaster Assistance, 2019). There are no post-disaster assistance grants or wage subsidy programmes available to businesses in the United States. The wage subsidy programmes that enabled organisations in New Zealand to keep their staff were important for the organisations and for their employees alike. New Zealand's post-disaster government assistance programmes for small businesses do appear to be unique with regard to the wage subsidies. However, it is not known whether or not post-disaster government assistance programmes for businesses that include wage subsidies exist in other countries. Regardless, for small-to-medium-sized enterprises in New Zealand, the post-disaster assistance provided by the government was essential toward their continued post-disaster operations. Wage subsidies were the most important component of the post-disaster, government-provided support packages for the participants in this study. The government assistance provided essential temporary relief for organisations affected by the 2011 Christchurch and 2016 Kaikōura earthquakes. However, the government assistance was temporary; and in many cases, insufficient to address all of the needs of the research participants in this study. Social capital helped fill some of these need gaps.

### **Social Capital**

Chapter six presented the findings on how research participants in this study leveraged their social capital toward their respective post-disaster recovery efforts. The more salient findings regarding the types(s) of social capital (bonding, bridging, linking) that were leveraged by the research participants and which types provided the greatest amount of tangible, post-disaster assistance are further elaborated upon and discussed in this section. Preceding the

discussion, an acknowledgement and recognition of the importance of previous social capital research is warranted.

Numerous scholars dating back to Alexis de Tocqueville in the 17th century to more contemporary scholars such as Burt (1995), Putnam (2000), and Aldrich (2012) have made large scholarly contributions toward advancing our collective understanding of social capital. Therefore, critically identifying flaws and/ or gaps in the research of the pioneers of scholarly research related to social capital, seemingly presumptuous to me as a researcher, is not an overriding objective of this study. Rather, the objective of this research is to identify how social capital was leveraged toward the post-disaster recovery efforts of New Zealand small-to-medium-sized enterprises. The findings from this research do not challenge existing social capital theory or models. Instead, they add to them. The words first uttered by the 12th century theologian, John of Salisbury, and repeated countless times over the past 700 years reminded and humbled me in that,

*We are like dwarfs sitting on the shoulders of giants. We see more and things that are more distant than they did not because our sight is superior or because we are taller than they but because they raise us up and by their great stature add to ours (Trustees of Dartmouth College, 2019).*

Research findings from this study regarding social capital at the organisational level appear to further validate the research findings from other research related to social capital at both the individual and community levels. For example, Granovetter (1973) posited that small group interpersonal relationships are the building blocks for bridges that connect small groups to larger social structures. Granovetter (1973) defined a *bridge*, in the context of a social network, as a singular connection between two points in a network; adding that weak ties effectively expand individual networks and; ostensibly, opportunity through a broader net that captures more diverse information than strong ties does.

Research findings from this study not only support Granovetter's (1973) theory but also show that social capital leveraged by the research participants in this study toward their respective post-disaster recovery efforts provided higher levels and more diverse forms of post-disaster recovery assistance than other risk management strategies employed by the participants. The exception in some cases was insurance. The research participants that owned buildings that were damaged from the disasters received indemnification for their losses from their insurance companies, including losses associated with business interruption if the organisation had business interruption insurance. This was true for the research participants from Christchurch and Kaikōura. However, in Kaikōura, physical damages to buildings were minimal in comparison to Christchurch. Therefore, insurance was less effective as a risk management strategy for the research participants in Kaikōura than it was for the research participants in Christchurch. This is because the issue for the research participants in Kaikōura regarding business interruption was the closure of State Highway 1. Ultimately, business interruption was an access issue versus an inability to trade because of physical damage to buildings. Research participants in Kaikōura that did not have physical damage to their buildings and tried to submit claims for business interruption against their business interruption insurance policies discovered that their business interruption policies did not cover interruptions caused by access issues such as road closures. Figures 7.1, 7.2, 7.3, and 7.4 (below) comparatively illustrate the sub-types of bonding social capital and their respective levels that the research participants in the current study reported leveraging toward their post-disaster recovery efforts.

The research findings from this study show that the highest levels and most diverse post-disaster assistance typologies received by research participants in this study through their bonding social capital were through their family members. The friends of the research

participants provided the second most diverse post-disaster assistance typologies to the participants; albeit at lower levels than from their family members. The diversity in the post-disaster assistance typologies tapered off with regard to staff members and neighbours and favoured emotional support over other assistance typologies.

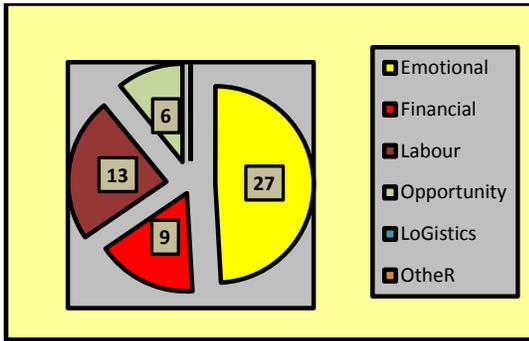


Figure 7.1. Itemised assistance types (familial).

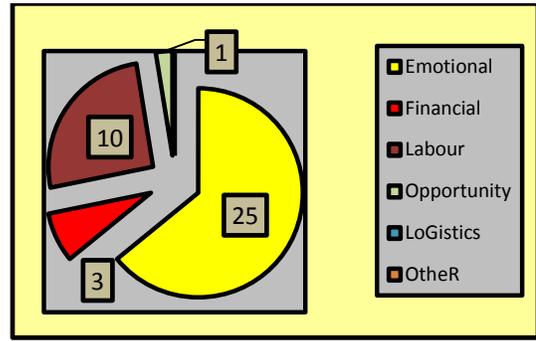


Figure 7.2. Itemised assistance types (friends).

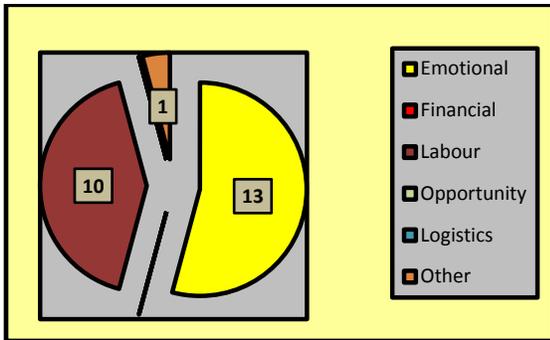


Figure 7.3. Itemised assistance types (staff).

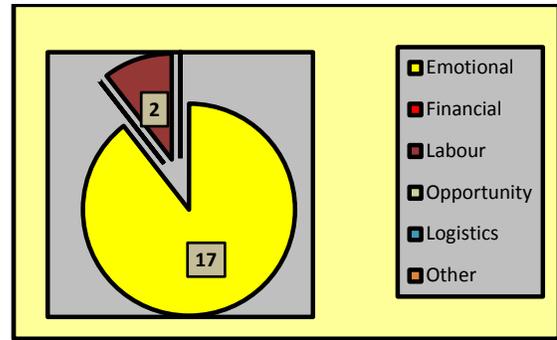


Figure 7.4. Itemised assist. types (neighbours).

When compared, bonding social capital provided less post-disaster assistance diversity than bridging social capital, as illustrated in Figure 7.5 (below). Research participants that leveraged their bridging capital toward their post-disaster recovery efforts reported significantly less emotional support than from their bonding social capital. However, the post-disaster assistance that research participants reported receiving through their bridging social capital was characterised by high degrees of diverse and tangible assistance.

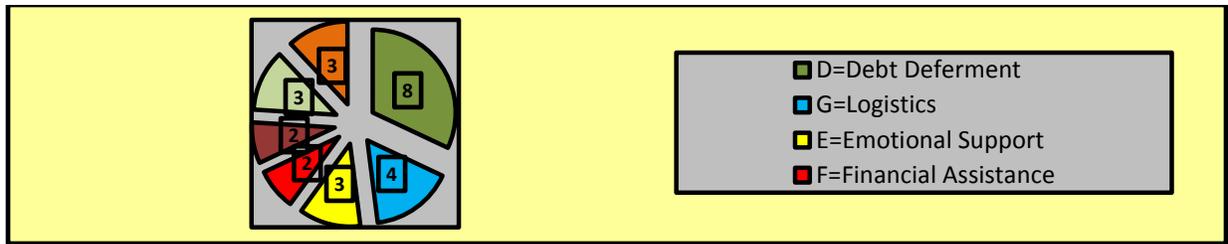


Figure 7.5. Itemisation of post-disaster assistance provided by vendors and/or suppliers.

The research participants in this study reported receiving post-disaster assistance through their bridging social capital in the form of debt deferment (32%); logistical support (16%); business opportunities (12%); and a diverse array of other assistance typologies underscoring the importance of bridging social capital as it pertains to the post-disaster recovery efforts of small-to-medium-sized enterprises in New Zealand. The research findings in the present study are similar to findings made by other social capital researchers. Although much of the previous social capital research focus was on how *individuals* and *communities* leveraged their social capital toward post-disaster response and/ or recovery endeavours versus how business organisations did, the research findings were similar.

For example, Hawkins and Maurer (2010) identify bridging social capital as being “instrumental in helping people survive the immediate aftermath of a flood” adding, “Connections across geographical, social, cultural and economic lines provided access to essential resources for families” (p. 1789). Research conducted by Bowden (2011), shows that it was “the social networks of those in the firms” that were instrumental to the success of business relocation after the 2011 Christchurch earthquake among research participants in that study. Another study examines the differences between how socio-economically disadvantaged African-Americans living in the Ninth Ward of New Orleans used their social capital to prepare for, response to and recovery from Hurricane Katrina, versus how affluent Caucasians did. Elliott, Haney and Sams-Abiodun (2010) found that in situations like disasters, where bonding

social capital is insufficient to meet the post-disaster needs of an individual, assistance was sometimes needed from beyond the disaster location. Under this scenario, when the individual lacked bridging social capital or if the individual lacked the financial means to leverage their bridging social capital, the impact was not isolated to the individual. The post-disaster recovery of the whole community was also adversely impacted. This was particularly true for the socio-economically disadvantaged citizens in the Ninth Ward of New Orleans. In summary, previous scholars concluded that bonding social capital was useful for short-term, localised response and recovery efforts including emotional well-being. However, bridging and linking forms of social capital were found to provide more long-term, post-disaster solutions and opportunities than did bonding social capital (Elliott, Haney & Sams-Abiodun, 2010; Hawkins & Maurer, 2010).

Linking social capital was represented in the findings of the present study (n=10). Contemporary social capital scholars assert that linking social capital provides individuals and communities with access to vastly deeper pools of post-disaster resources than bonding or bridging social capital (Aldrich, 2012; Aldrich, Meyer, & Page-Tan, 2018). However, fewer instances of linking social capital were found among research participants than bonding or bridging social capital in the present study. The post-disaster assistance typologies provided to the research participants through their linking social capital exhibited less diversity than participants reported receiving through their bridging social capital as shown below (Figure 7.6).

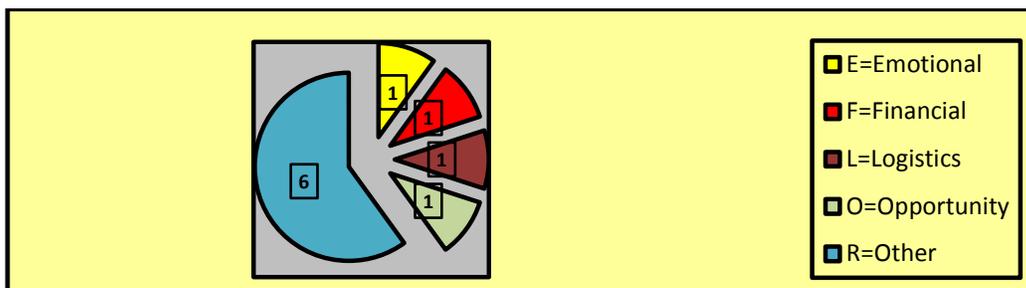


Figure 7.6. Post-disaster assistance provided through linking social capital.

Burt (1992, 1997) posits that causative agents; presumably, like the 2011 Christchurch and 2016 Kaikōura earthquake disasters, behave like structural holes between individuals, groups and/ or networks that Granovetter's (1973) weak ties serve to bridge across. Burt (1993, 1997) further asserts that positioned at each side of the structural hole are individuals, groups and/ or networks that attempt to broker or otherwise control information traversing across the bridge that spans the structural hole for the purpose of entrepreneurial exploitation. Irrefutably, exploitation does at times occur after disasters when the window of opportunity is open.

The exploitation may be manifested positively or negatively. For example, through government-led policy changes, such as the recent gun control legislation enacted within days after the 2019 terrorist attacks against two mosques in Christchurch, New Zealand. Conversely, exploitation can be negative, such as the price-gouging by local merchants of necessary goods, such as potable water, after or during disasters. According to the International Institute for Sustainable Development, covert means of post-disaster exploitation has occurred in some cases such as politically-influenced land re-zoning programmes that benefit wealthy individuals, commercial and/ or government interests (Brown & Crawford, (2006). Additionally, no-bid contracts awarded to large construction companies involved in post-disaster rebuilds have occurred (Fernández Campbell, 2017). Charles, the owner of Sleep Well in Christchurch, humorously summed the propensity of some individuals to exploit others; quipping, "If your moustache is on fire, there will always be someone that will attempt to light a cigarette."

Thus; in chaos, opportunity exists. In fact, this research represents just such a scenario. The opportunity to investigate how small-to-medium-sized enterprises in Christchurch, New Zealand leveraged their social capital toward their post-disaster recovery efforts is what brought me to New Zealand. While in the middle of conducting interviews with research participants in

Christchurch at the end of 2016, the nearby village of Kaikōura was struck by a massive earthquake opening a window of opportunity for the current research. This, in turn, provided an opportunity to facilitate the conceptual and theoretical development of the primary scholarly contributions made by this research.

### **Scholarly Contribution(s)**

Many findings from this research validate research findings made in previous studies examining social capital in a disaster context; albeit at the individual and community levels. For example, research findings from other studies conducted in a post-disaster context regarding the different forms of social capital show that bonding social capital provides short-term, predominantly localised relief that includes mostly emotional support (Elliott, Haney & Sams-Abiodun, 2010; Hawkins & Maurer, 2010). Previous research also shows that bridging social capital provides gateways to post-disaster assistance and/ or resources that are located beyond the geographical area affected by disasters (Elliott, Haney & Sams-Abiodun, 2010; Hawkins & Maurer, 2010). Moreover, it has been shown that bridging social capital, like linking social capital, provides post-disaster assistance and/ or resources that are more beneficial to individuals and communities over the long-term than bonding social capital does (Elliott, Haney & Sams-Abiodun, 2010; Hawkins & Maurer, 2010).

Categorising the post-disaster assistance that was provided to some research participants in this study from individuals and/ or organisations that they did not know was problematic. Granovetter's (1973) strong, weak, absent ties theory is vague inasmuch that absent ties is not well-defined; conceptually. Moreover, while vast research has been conducted on Granovetter's (1973) weak and strong ties theories, very little research has been conducted regarding his absent ties concept.

Categorising unknown individuals and/ or organisations that provided tangible post-disaster assistance to some of the research participants in this study as *weakly-tied bridges*, applying Burt's (1992, 1997, 2000) theory, would have been an inaccurate categorisation because no bridges existed between the participants and these unknowns at the time the assistance was provided. Therefore, they cannot be weakly tied bridges. This represents another gap in the social capital literature. Categorising the post-disaster assistance that was provided by unknown individuals and/ or organisations to some of the research participants in this study using the bonding, bridging, and linking social capital model was also problematic.

The bridging social capital category was not an accurate reflection of the interpersonal relationships or the interactions between the research participants in this study and the individuals and/ or organisations that provided the participants with post-disaster assistance; people and/ or organisations with whom the research participants had no prior relationships at the time that the assistance was provided. Gaps identified in the research literature and associated social capital models reconciled well with the proposed theoretical supplement, *latent social capital*, to the bonding, bridging and linking social capital model.

### **Emergent theory: Bridging social capital.**

The first scholarly contribution this research makes to advance our collective knowledge is in its validation of existing research findings related to social capital categorisation and post-disaster assistance typologies. This research expanded upon extant research by studying social capital at the business organisation level, exclusively. Gaps in the existing body of knowledge pertaining to social capital, specifically in a post-disaster context, were identified. These gaps were addressed through the development of novel theory based on an amalgamation of extant research literature with findings from the current study. The findings from this study show that

although bonding social capital was important in assisting some of the research participants with resumption of their business operations immediately after their respective disasters, it was bridging social capital that provided the most long-term, post-disaster recovery assistance to research participants. Thus, it is theoretically proposed that *bridging forms of social capital connect small-to-medium-sized enterprises to more diverse private-sector, post-disaster resources than bonding or linking forms of social capital*. The second conceptual and theoretical contribution this research makes to the existing body of knowledge related to social capital, I refer to as, *latent social capital*.

#### **Emergent theory: Latent social capital.**

The conceptual and theoretical development of *latent social capital* arose as a result of a thorough review of extant literature related to social capital and from the research findings from this study. Conceptual gaps were revealed through the data analysis process. An extensive review of the social capital literature and theories confirmed the gaps that were identified in the findings from the current study.

The first gap in the research literature that was identified was regarding the concept of *bridging* social capital. Bridging social capital, conceptually, suffers ambiguity inasmuch that its boundaries are not well defined. Conceptually and historically, bridging social capital has been used to identify and categorise mutual ties (bridges) that weakly connect individuals, groups and/or networks to each other. Social capital research conducted in post-disaster settings has shown that the bridging and linking categories of social capital provide more tangible forms of post-disaster assistance facilitated through access to resources that are beyond the geographical, financial and/or political reach of their bonding social capital (Aldrich, 2012; Aldrich, Meyer, & Page-Tan Elliott, 2018; Haney & Sams-Abiodun, 2010; Hawkins & Maurer, 2010). However,

scholars have overlooked the fact that resources are not stand-alone assets waiting to be harvested or extracted at will by individuals or organisations that desire them. Instead, post-disaster resources are owned by individuals, groups and/ or networks that may be accessed through bonding, bridging or linking types of social capital. Although the owners of post-disaster resources are accessed largely through bridging social capital, they are neither the resources themselves nor are they the bridging social capital. Instead, the owners of these resources are something other. Because of the conceptual ambiguity concerning bridging social capital and its parameters, inasmuch that bridging social capital presumptuously snares and incorporates the resources beyond the distal side of the bridge, a new category of social capital, referred to as *latent social capital*, is proposed to supplement the widely used, bonding, bridging, and linking social capital model. Conceptually, latent social capital parametrically defines and/ or bounds the concept of bridging social capital and facilitates a simpler and more accurate categorisation of social capital.

Conceptually, *latent social capital* refers to the social capital that an Actor has with individuals and/ or organisations with which the Actor does not have an existing relationship. This category is often accessed through other forms of social capital such as bridging social capital, as reported by some of the research participants in this study. Accordingly, the proposed definition of *latent social capital* is based on its key attributes including: (1) individuals and/ or organisations that do not have an existing relationship with each other; and (2) are often introduced to each other through their bonding, bridging and/ or linking social capital. Additionally, *latent social capital* is temporal and either converts to bonding, bridging or linking social capital or dissolves after the parties that were otherwise unknown to each other are introduced. Thus, the proposed working definition of *latent social capital* is: a temporal form of

social capital between entities previously unknown to one another that is frequently but not exclusively, accessed through bonding, bridging and/ or linking social capital and converts to bonding, bridging or linking social capital or dissolves after the entities that were previously unknown to one another are introduced.

Gittell and Vidal (1998) define bridging social capital as “the type [of social capital] that brings together people or groups who previously did not know each other” (p. 15). Although the definition of bridging social capital offered by Gittell and Vidal (1998) is similar to the proposed definition of latent social capital, it is distinguishable. First, whereas latent social capital is temporal, converting to another form of social capital once its latency evaporates; bridging social capital is not intrinsically temporal and it does not necessarily convert to another form of social capital or dissolve. Conversely, the very essence of *latent social capital* is that it is temporal and either converts to another form of social capital or dissolves. Either way, the addition of latent social capital to the existing bonding, bridging and linking social capital model, conceptually and theoretically, contributes to and enhances our existing understanding of social capital by categorically identifying and defining a new form of social capital hitherto unidentified and unnamed. Additionally, *latent social capital* more accurately describes how an Actor located on one side of a network bridge accesses resources owned by individuals and/ or organisations located on the distal side of a network bridge that do not know one another. The bridging social capital component is merely a conduit through which Actors access *latent social capital* and the potential resources that are controlled by the individuals and/ or organisations that represent latent social capital. The findings from this research, illustrated in Figure 7.7 (below), show that the post-disaster assistance received by the research participants through latent social capital was

diverse and included business opportunities (n=3); financial assistance (n=2); logistical assistance (n=2); emotional support (n=1); and labour (n=1).

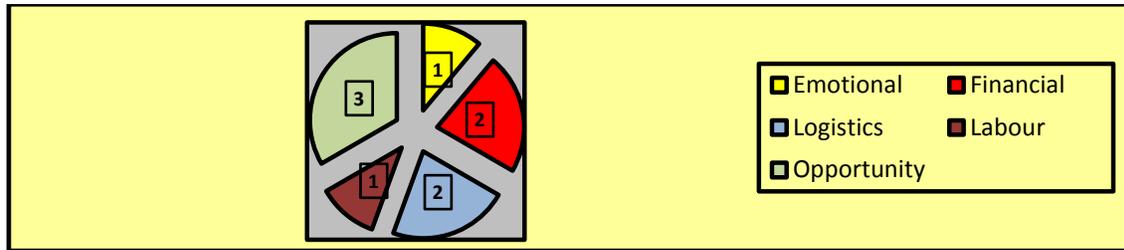


Figure 7.7. Types of post-disaster assistance provided through latent social capital.

Ambiguous implications that bridging social capital links individuals, groups and/ or networks to *resources* is more accurately described through the addition of *latent social capital* to the existing bonding, bridging, linking social capital model. Further categorisation of social capital through the addition of latent social capital will conceptually, taxonomically and categorically assist social capital researchers in the future. Identifying, developing and cultivating methods that help small-to-medium-sized enterprises grow their bridging social capital is an important step toward opening pathways to connect small-to-medium-sized enterprises to their latent social capital; a potentially invaluable resource during post-disaster recovery efforts. The development of *latent social capital*; conceptually and theoretically, is the dominant scholarly contribution made by this research. The practical implications of the research findings from the current study are discussed next.

### Practical Implications

The first practical implication from the research findings relates to the growth of organisational bridging and linking social capital toward creating regionally-spanning networks. By growing their bridging and linking forms of social capital, organisations that are impacted by disasters will be better poised to solicit diverse, post-disaster assistance from outside of their geographic area when necessary. Moreover, through their bridging and linking social capital,

organisations may be able to activate latent social capital; an extremely important conduit for resources; especially in a post-disaster context.

Organisations with lacking or weak bridging social capital or that are unengaged in building and strengthening their bridging social capital will have little to no access to latent social capital; a great untapped resource that could provide high levels of diverse, post-disaster assistance to their businesses. Ultimately, recovery, from any form of disaster, might be more difficult. Therefore, the owners and/ or managers of small-to-medium-sized enterprises should endeavour to build their bridging social capital because it is an important conduit to latent social capital. Intuitively, organisations with numerous and diverse bridges spanning numerous and diverse networks are well-positioned to access vast and deep pools of latent social capital.

Small-to-medium sized organisations can build and/ or strengthen their bridging social capital through a variety of methods. Clearly, active engagement with the immediate business community engenders good-will. Additionally, small-to-medium-sized enterprises should effort to network with businesses located beyond their immediate business and geographic communities that operate in similar industry sectors. This can be achieved through attending social events; through membership and participation in civic, professional, and/ or trade associations; by attending town hall meetings; attendance at food festivals; through volunteerism; athletic sponsorship and/ or attending sporting events; and through good neighbourly relations. Multiple streams of bridging social capital should be considered including digital forms such as social media.

The second practical implication for small-to-medium-sized enterprises is regarding the issue of secondary sites. The research participants in this study that suffered catastrophic physical damage to their primary business locations in Christchurch but were able to relocate to

their pre-existing secondary sites were able to resume their business operations with less difficulty than the research participants that did not have pre-existing secondary sites where they could relocate. The same was true for the research participants that could find secondary sites to re-locate their businesses to after their respective disasters. Having a secondary site often enables organisations to continue their business operations in the event that their primary business location is damaged or destroyed. This strategy was extremely effective for some of the research participants in this study and is supported by extant literature (Corey & Dietch, 2011). However, the majority of the research participants in this study did not have secondary sites.

The practical implications related to business continuity planning and insurance are also important. The majority of the research participants in this study did not engage in business continuity planning. Sir Winston Churchill's axiom, "Failing to plan is planning to fail" succinctly captures the practical implications of not engaging in business continuity planning.

Lastly, the findings from this study show that business insurance was the most relied upon form of risk management strategy that research participants employed. However, insurance claims took a long time to process. Many research participants reported excessive delays with regard to indemnification from their insurance companies. Business interruption insurance, especially for organisations located in Kaikōura, was particularly contentious. The practical implications of these findings are: (1) insurance companies, brokers and agents need to do a better job disclosing policy coverage details and limits with their clients; and (2) insurance policyholders need to more carefully and thoroughly read their insurance policies to understand what is covered by their policies and what is not in addition to the excess amounts.

The practical implications for organisations that make changes to their existing risk management strategies like the aforementioned above include speedier post-disaster recovery,

mitigation against losses, and the ability to continue their business operations in a post-disaster context. Importantly, by growing their bridging and linking forms of social capital, organisations can animate latent social capital that may usher diverse, post-disaster assistance and/ or resources that might potentially be unavailable otherwise. Limitations to the findings from the present study are discussed in the next section.

### **Research Limitations**

Although this research identified how the research participants leveraged their social capital towards their respective post-disaster recovery efforts, developed theory grounded in the research data and identified a new category of social capital, referred to as latent social capital; as with all scientific research, limitations exist with respect to the research findings and their practical implications. First, qualitative research, interpretive and subjective, using grounded theory methods of data analysis employs coding processes to compartmentalise, reduce and interpret the research data. The very nature of interpretivist research is such that the research data may be interpreted differently by other researchers applying their own coding schemes. Additionally, researchers bring their own biases despite every effort to retain their objectivity.

Limitations to the present research that impact its findings include a small sample size (n=30). The small sample size of the research participants limits the findings because they are not likely universally generalizable. However, universal generalizability of research findings is not typically an expected outcome in qualitative research, including in grounded theory methods of research (Creswell, 2013; Bryant & Charmaz, 2007). Additional future research investigating how small-to-medium-sized enterprises leverage their social capital toward their respective post-disaster recovery efforts could potentially validate the findings from the current study toward universal generalizability. Another research limitation that may impact the findings from this

study is that very few research participants (n=1) in this research were defunct as a result of the disasters at the time of the interviews (Webb, Tierney, & Dahlhamer, 2000). Hence the perspective from small-to-medium-sized enterprises that failed after the 2011 Christchurch or 2016 Kaikōura earthquakes are not well represented in the present study.

Other limiting factors in the research findings relate to research participant social desirability bias and recall bias. According to Patten (2012), social desirability bias occurs when research participants purposefully respond inaccurately to research queries if a query causes feelings of inferiority in the respondent. Additionally, social desirability bias can occur when research participants respond to research queries with answers that they perceive the interviewer desires and/ or with answers that serve to advance a research participant's agenda, uphold an image, or some other self-serving motivations.

Recall bias occurs when a participant's recollection of events is skewed due to inaccurate and/ or incomplete recollections of events and/ or experiences that happened in the past (Porta, 2014). This research was done retroactive to the 2011 Christchurch and 2016 Kaikōura earthquakes. Due to the passage of time, research participants may not have recalled their experiences exactly as they actually occurred at the times of the earthquakes. Both types of bias were possible. Notwithstanding the potential limitations in the findings from this study, this research makes important contributions to the bodies of literature related to social capital, emergency management, disaster studies, and business management. Yet, more research is needed.

### **Recommendations for Future Research**

Future research should be conducted to advance our understanding of how organisations leverage their social capital toward their post-disaster recovery efforts; particularly, the bridging,

linking and the newly proposed, *latent social capital* forms of social capital. Additionally, future research should investigate and identify methods that small-to-medium-sized enterprises can employ to grow their bridging and/ or linking social capital. Growing an organisation's bridging and linking social capital can facilitate access to and animation of latent social capital that may potentially be leveraged toward important post-disaster recovery resources and assistance. Moreover, growing the bridging and linking social capital of an organisation can connect the organisation with latent social capital that can provide the organisation with business opportunities that may have not otherwise been available.

Another area for future researchers to explore is how to create industry-sector specific networks and/ or bridges that can connect organisations located in different geographical locations and/ or communities but that operate in the same or similar industry sectors. This would be extremely important for organisations struggling in the aftermath of a disaster because having such networks in place prior to a disaster can facilitate the ability of organisations to speedily access diverse forms of post-disaster support through their network(s). Access to post-disaster assistance can mean the difference between the post-disaster continuity of an organisation versus its demise. Professional, trade and/ or advocacy groups; religious organisations and civic associations may serve as facilitators and/ or conduits through which such business networks may be created and maintained.

Lastly, future research should investigate the viability of integrating social capital into business continuity planning as a risk management strategy. Perhaps through memorandums of understanding, social capital can be integrated into the business continuity planning process. Although not a binding agreement, memorandums of understanding could be integrated into business continuity plans simply to document the relationships of the parties, contact information

and the types of assistance and/ or resources that the parties can provide to each other in the event of a disaster.

## **Conclusion**

This qualitative research investigated the role of social capital in the post-disaster recovery efforts of small-to-medium-sized enterprises in New Zealand. Data was gleaned through semi-structured research interviews with 30 small and medium-sized enterprise owners and managers whose businesses were affected by the 2011 Christchurch and 2016 Kaikōura earthquakes. Newspaper articles, government reports, and previous academic research provided additional data for this study. A last search for extant academic literature related to disasters, small businesses and social capital was conducted as the final words were being written in this study.

This final search for recently published literature related to the topic of this study revealed a 2018 study published in the journal, *Contingencies and Crisis Management*. Torres, Marshall and Sydnor (2018) investigated whether social capital benefited small businesses affected by Hurricane Katrina, and if so, what form(s) of social capital had the largest impact on their resiliency. The researchers concluded that, “. . . bridging and linking [forms of social capital], rather than bonding [social capital] can significantly drive small business resilience post-Katrina” (p. 12). My first thoughts after reviewing Torres, Marshall and Sydnor (2018) were that (1) I was late. This research had already been conducted and its findings identified and published rendering the originality of the findings related to bridging social capital from the present study, as novel-deficient; and (2) that the findings from this current study simply support the findings in Torres, Marshall and Sydnor (2018).

However, this is not necessarily the case because Torres, Marshall and Sydnor (2018) defined bridging social capital differently than the definition provided by previous researchers and adopted for the present study. Whereas, Torres, Marshall and Sydnor (2018) loosely defined bridging social capital as a connection to “community leaders” (p. 4); Gittel and Vidal (1998) define bridging social capital as “the type [of social capital] that brings together people or groups who previously did not know each other” (p. 15). Thus, bridging social capital is not necessarily an exclusive form of social capital reserved for community leaders as implied in Torres, Marshall and Sydnor (2018). Notwithstanding this notable distinction as to what constitutes bridging social capital, the findings in Torres, Marshall and Sydnor (2018) appear to dovetail with the findings from the present study.

Thus, the present study theoretically proposes that *bridging forms of social capital connect small-to-medium-sized enterprises to more diverse, private-sector, post-disaster resources than bonding or linking forms of social capital*. Additionally, the contemporary bonding, bridging, linking social capital model was found to be ambiguously overly-broad, parametrically, with respect to its extension to unknown entities beyond the distal side of a bridge. Therefore, to remedy this ambiguity and parametrically confine bridging social capital, an additional category of social capital, *latent social capital*, was proposed to supplement the existing bonding, bridging, and linking social capital model.

The purpose of the proposed addition of latent social capital to the existing social capital model is to give taxonomic dimension to the unknown owners of resources that exist at distal sides of bridging social capital bridges. Under the existing bonding, bridging, linking social capital model, bridging social capital encompasses the entities and resources that are located beyond the distal sides of the bridges. This overly-broad and simplified conceptualisation does

not acknowledge that (1) resources are not stand-alone assets; they are owned by individuals and/or organisations; and (2) bridges are merely conduits that connect one side to another; they do **not** encompass all that exists on the other sides of network bridges. Instead, bridges and bridging social capital are the connections between individuals and/or organisations that do not yet know each other. Hence, individuals and/or organisations that do not yet know each other cannot be categorised as bonding, bridging or linking forms of social capital because no pre-existing relationships between the parties exist. Therefore, a category other than bonding, bridging or linking social capital was needed. The proposed addition of latent social capital to the bonding, bridging, and linking social capital model remedies ambiguities regarding bridging social capital.

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# APPENDICES

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## Appendix A: Research Consent Form

Department of Management,  
Marketing, & Entrepreneurship  
Telephone: +64 21 08161564  
Email: [mike.bethany@pg.canterbury.ac.nz](mailto:mike.bethany@pg.canterbury.ac.nz)



The Role of Social Capital in Business Continuity Planning

### Consent Form for Research Participants

- I have been given a full explanation of this research and have had the opportunity to ask questions.
- I understand what is required of me if I agree to take part in the research.
- I understand that participation is voluntary and I may withdraw at any time without penalty.
- Withdrawal of participation will also include the withdrawal of any information I have provided should this remain practically achievable.
- I understand that any information or opinions I provide will be kept confidential to the researcher.
- I understand that any information or opinions I provide will be kept confidential to the researcher and supervisors listed on the Information Sheet that I have a copy of, and that any published or reported results will not identify the participants or their institutions. I understand that a thesis is a public document and will be available through the UC Library. I further understand that any published or reported results will not identify the participants or their organisations.
- I understand that all data collected for the study will be kept in locked and secure facilities and/or in password protected electronic form and will be destroyed after ten years.
- I understand the risks associated with taking part and how they will be managed.
- I understand I may receive a report on the findings of the study by contacting the researcher when the research concludes.

- I understand that I can contact the researcher, **Michael Bethany** through the contact information listed above or may contact the researcher's supervisors: **Dr. Venkataraman Nilakant** and/ or **Dr. Sanna Malinen** by email at ([ven.nilakant@canterbury.ac.nz](mailto:ven.nilakant@canterbury.ac.nz)) or ([sanna.malinen@canterbury.ac.nz](mailto:sanna.malinen@canterbury.ac.nz)) for more information. Complaints may be directed to the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch ([human-ethics@canterbury.ac.nz](mailto:human-ethics@canterbury.ac.nz))
  
- By checking this box I am indicating that **I would like to receive a copy of the research findings.**

**By signing below, I agree to participate in this research.**

Name (Printed): \_\_\_\_\_

Name (Signed): \_\_\_\_\_

Dated: \_\_\_\_\_

Email address: \_\_\_\_\_

If you agree to participate in the research, you are asked to complete the Consent Form and return it to Michael Bethany prior to the research interview. You will also receive a copy of the signed Consent Form. Thank you for participating!

Michael Bethany, Researcher

## **Appendix B: Participant Information Sheet**

Department of Management, Marketing, & Entrepreneurship  
Telephone: +64 21 08161564  
Email: mike.bethany@pg.canterbury.ac.nz

15 September 2016

The Role of Social Capital in Business Continuity Planning

Information Sheet for Research Participants

### Research Purpose

Greetings! My name is Michael Bethany. I am a doctoral student at the University of Canterbury in the Management, Marketing & Entrepreneurship Department. The purpose of this research is to explore if and how organisations in Christchurch create, maintain and utilise relationships with other organisations to help them respond to and recover from crises and disasters. Findings from this research will be incorporated into the PhD thesis.

### Research Participation

If you choose to take part in this research, your involvement in this research will be to respond to interview questions regarding the subject-matter of this research. The interview will be recorded using audio recording devices so that your responses may be recorded accurately for later transcription by the researcher and/ or transcription services. Additionally, handwritten notes may be taken. Up to three hours is the estimated total time required for this research itemised below:

30-90 minutes to conduct the initial interview (in-person)

20-45 minutes for you to review the transcript from the interview (provided via email)

15-45 minutes for follow up questions/interviews (via telephone/Internet)

### Potential Risks/Discomforts

Interviews conducted as part of this research have the potential to trigger emotional distress. Recalling events associated with the 2010 and 2011 Christchurch earthquakes may cause you discomfort or emotional distress. However, given that five years has elapsed since the earthquakes, emotional distress associated with this research (if any) is likely to be low. Should you feel discomfort and/ or emotional distress as a result of the interview and/ or its subject matter, you may refuse to answer any questions, reschedule the interview, or withdraw from participating in the research at any time. Additionally, you may withdraw any information that you have already provided at any time. A list of low-cost/no-cost support services will be provided to you.

### Voluntary Research Participation

Participation in this research is voluntary. You have the right to withdraw at any stage for any reason. You may request raw data that you have provided to be returned or destroyed at any point during the research. If you withdraw from the research, the researcher will remove

information relating to your participation. However, once analysis of the raw data begins on [16 January 2017], it will become increasingly difficult to remove the influence of your participation data on the research results and/ or findings.

### Research Participant Follow-Up

As a follow-up to this research, you will be provided with a copy of your transcribed interview/s and asked to review your interview transcript/s to ensure accuracy and to add, clarify and/ or revise your comments. Additional follow-up interviews and/ or questions may be needed for further clarification and will be conducted by telephone and/ or email. You will receive a copy of your interview transcript within six weeks after the interview date. Follow-up questions, conducted in-person; or over email, telephone, or Internet chat, will be scheduled approximately two weeks after you have received your interview transcript.

### Research Publication and Confidentiality of Research Participants

The findings from this research may be published. However, no raw data will be published and the confidentiality of your participation will be maintained at all times unless consent is otherwise provided by you. Examples of additional uses and/ or publications resulting from this research that extend beyond the PhD thesis may include using or sharing the data in academia through peer-reviewed journal articles and books; to advise policy and/ or business practice; during presentations at seminars; conferences; in blog postings; during speeches/presentations to organisations, civic associations, and professional associations.

Additionally, confidential data collected as part of this research will be aggregated toward identifying meaningful themes and patterns and will be made part of the UC CEISMIC Quake Studies digital archive. The confidentiality of all individual and organisation participants will be maintained at all times unless consent is otherwise provided. Neither will be identified nor will any personally or organisationally identifiable information be included in the UC CEISMIC Quake Studies digital archive without the consent of the participant.

Research participants may be assured of the complete confidentiality of the data gathered in this investigation

Identities of individual and organisational research participants will be held in strict confidence and will remain confidential. Under no circumstance will your identity as an individual or organisational research participant be made public without your prior consent. Confidentiality will be maintained through the use of pseudonyms (code-names) assigned to individuals and the organisations they represent. A unique pseudonym will be given to you and recorded on your consent form. The researcher and the researcher's supervisors are the only individuals with access to the consent forms and assigned pseudonyms. Interview recordings may be transcribed by third party transcription services; however, your identity will remain confidential. Consent forms will be stored in a locked filing cabinet within the researcher's secure, card-access, and monitored office located on campus at the University of Canterbury. Digital data related to the research will be stored on password protected researcher and university servers. Raw data will be destroyed ten years after the completion of this research. Paper files, documents, and other forms of analogue data will be shredded. Digitally stored data will be deleted from the servers housing them.

### Research and Participant Benefits

The benefits of this research include identifying the role that inter-organisational relationships play in assisting organisations respond to and recover from crises and/ or disasters. The knowledge gained through this research will help organisations become more resilient in the face of adversity. Increasing organisational resiliency is good for organisations but it also contributes to the well-being of their employees and adds to the overall resiliency of the communities where they operate. The benefit for you as a research participant is in knowing that your participation adds to the body of knowledge related to organisational resiliency which may help other organisations, your community and beyond become more resilient.

A thesis is a public document and will be available through the UC Library

Please indicate to the researcher on the consent form if you would like to receive a copy of the summary of the results of this research.

#### Research Supervision

This research is being carried out as part of a requirement for a PhD degree through the Management, Marketing & Entrepreneurship Department at the University of Canterbury by Michael Bethany under the supervision of Dr. Venkataraman Nilakant and Dr. Sanna Malinen who can be contacted at [ven.nilakant@canterbury.ac.nz](mailto:ven.nilakant@canterbury.ac.nz) and [sanna.malinen@canterbury.ac.nz](mailto:sanna.malinen@canterbury.ac.nz) They will be pleased to discuss any concerns you may have about your participation in this research.

This research has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch ([human-ethics@canterbury.ac.nz](mailto:human-ethics@canterbury.ac.nz)).

If you agree to participate in the research, you are asked to complete the consent form and return to Michael Bethany prior to the commencement of the interview. A copy of the executed consent form will be provided to you.

Thank you for your important contribution as a participant in this research.

Michael Bethany, Researcher

## **Appendix C: Research Data Collection Protocol**

### **Data Collection Plan**

The primary evidentiary data that will be collected from research participants in this multiple-case study are narrative in form. Interviews with small and medium-sized enterprise principals such as organisational owners, managers or both will produce anecdotal data. That is, interviewees will expectedly share their experiences, stories and feelings regarding the Christchurch earthquakes and how their respective organisations responded to and recovered from the events.

Interviews with research participants will be audio recorded for later transcription using a digital voice recorder. Additionally, written notes will be taken to record the environment where the interview is taking place, the moods of the interviewee and interviewer, the appearance of the research participants, body language, and any other information pertinent to the interview or the research being conducted.

There exists the possibility that research participants will share photographic evidence illustrating damage(s) and perhaps in some cases a chronology of the event(s) and possibly the response and recovery efforts showcasing the organisation before the event(s) and afterward. Additionally, interviewees may wish to share documentation with the researcher. Documents which might be provided by research participants for the researcher to review could include insurance policies, insurance-related correspondence, government correspondence, inventory lists, tax and accounting records, business licenses, rental and lease agreements, and bank statements. However, it is not necessary for participants to provide such documentation and it is unlikely that the participants will volunteer such data. Moreover, it is not anticipated that such data will be sought or asked for as part of this study. Yet, in the event that such documents are

made available and are necessary for the researcher to copy, such documentation will be held in the strictest of confidentiality and in a fiduciary manner. Personally identifiable information (PII) and organisationally identifiable information will be removed from any discussion and analysis and will be replaced with pseudonyms when and if necessary.

### **Resources and Supplies**

Being prepared for multiple-case study research is important according to Yin (2014). Using a digital audio recorder is an essential tool to record the responses of interviewees to the question prompts. However, additional resources and supplies should be brought by the researcher including:

- Extra batteries for the digital audio recorder
- Personal laptop computer
- Paper notebooks
- Pencils, pens and highlighters
- Erasers
- Paper clips
- Office tape
- File folders
- The multiple-case study protocol
- Cell phone
- Reading glasses
- Water bottle

Having the above supplies during the interview provides a safety net for the researcher in the event technology fails or simply as a supplement to technology. Moreover, it underscores the researcher professionalism and preparedness to research participants. Yet, a situation might arise wherein the researcher needs to call for help with the research.

Having the contact information of other research team members, colleagues or both is important in the event that the researcher needs assistance, guidance or both with the interview. This information is therefore incorporated into this multiple-case study protocol.

## Procedural Reminders

The multiple-case study will be challenging. The key to navigating the research is consistency in the way the research is conducted. Toward that objective, research procedure reminders are helpful.

- Be on time!
- Remember to explain the research objectives and purpose to participants.
- Remember to define social capital and business continuity planning to research participants.
- Remember to bring a digital audio recorder and extra batteries.
- Remember to bring consent forms and have research participants sign them prior to commencement of the interviews.
- Remember to advise research participants that they may end the interview at any time and that they are not required to participate.
- Remember to bring office supplies to interviews.
- Dress and behave professionally.
- Be polite and thankful to research participants.
- Remember to ask research participants if they would like a transcript of their interview. This is also important for research reliability and validity.
- Do not interrupt or lead research participants in their responses.
- Be tactful in redirecting research participants back to the focus of the research if they wander off-topic.
- Remember to let participants tell their stories. Listen more, speak less.
- Remember to ask research participants if they have any questions about the interview or what you are going to do with the information.
- Remember to advise research participants that their identities and the organisations they represent will be anonymised unless they expressly state otherwise.
- Remember to ask research participants if they have any questions for you.
- Remember to thank research participants for their time and seek permission to contact them for possible follow-up questions.

## Case Study Questions

1. **The creation and maintenance of social capital**
  - a. Describe how your organisation endeavours to build relationships with other organisations.
  - b. Describe how other organisations endeavour to build relationships with your organisation.
  - c. Are there certain characteristics, factors, or benefits that other organisations may provide which guide your organisation in seeking relationships with other organisations?
    - i) If so, please elaborate and explain.

- ii) If so, are the attributes which your organisation seeks from inter-organisational relationships with other organisations reciprocal or symbiotic?
    - If so, please explain.
- d. How are inter-organisational relationships nurtured and maintained by your organisation?
- e. Are there reciprocal obligations or expectations associated with the inter-organisational relationships?
  - i) If so, please describe.
- f. Does your organisation have any affiliations with any professional, civic or business associations?
  - i) If so, please describe the professional, civic or business associations with which your organisation is affiliated.
  - ii) If so, has membership and participation in these associations facilitated the creation of inter-organisational relationships with other organisational members?
  - iii) If so, how?
- g. Have inter-organisational relationships benefited your organisation?
  - i) If so, how and in what ways?

## 2. **The Christchurch earthquakes and social capital**

- a. Please describe the Christchurch earthquakes experience.
- b. How did the Christchurch earthquakes impact your organisation?
- c. How did your organisation respond to the challenges related to the earthquakes and the impact(s) on your organisation?
- d. Did your organisation use inter-organisational relationships to assist with responding to challenges created by the earthquakes?
  - i) If so, how?
- e. Did your organisation use inter-organisational relationships to assist with recovery efforts related to the earthquakes?
  - i) If so, in what ways?
- f. Did your organisation assist with the response efforts of any other organisations?
  - i) If so, in what ways?
  - ii) Please describe the assistance provided and the organisations that were assisted.
- g. Did your organisation assist with the recovery efforts of any other organisations?
  - i) If so, please describe the assistance provided and the organisations that were assisted.

## 3. **Business continuity planning**

- a. Did your organisation have a written business continuity plan at the time of the earthquakes?
  - i) If so, please explain what influenced the decision to create a business continuity plan.

- ii) If not, what influenced the decision not to create a plan?
- b. Did your organisation create a business continuity plan after the earthquakes?
  - i) If so, what influenced the decision to create a business continuity plan?
  - ii) If not, what influenced the decision not to create a plan?
- c. If your organisation had a business continuity plan, was it activated?
  - i) If so, did it work as it was supposed to?
  - ii) Why or why not?
- d. If your organisation did not have a business continuity plan, what methods were implemented to keep the organisation running?
  - i) Were the methods effective?
  - ii) Why or why not?
- e. If your organisation had a business continuity plan and activated it in response to the earthquakes, did your organisation also use its inter-organisational relationships for assistance?
  - i) If so, how did your organisation integrate the business continuity plan with the assistance received from the other organisations?
  - ii) Did the assistance received from inter-organisational relationships supplement or supplant the business continuity plan? Please describe.
  - iii) Which was more helpful to your organisation during the response phase of the earthquake events, the business continuity plan or the assistance your organisation received from inter-organisational relationships? Please elaborate.
  - iv) Which was more helpful to your organisation during the recovery phase of the earthquake events, the business continuity plan or the assistance your organisation received from inter-organisational relationships? Please elaborate.
- f. What changes (if any) were made to your organisation's business continuity plan after the earthquake events?
  - i) If changes to the business continuity plan were made after the earthquakes, were inter-organisational relationships included in the changes to the business continuity plan?
  - ii) Why or why not?
- g. Should inter-organisational relationships be integrated with business continuity plans?
  - i) Why or why not?
  - ii) If so, how can the integration best be achieved?
- h. What lessons did your organisation learn from the earthquake events?
- i. What would your organisation do differently than it did in response to the 2010 and 2011 earthquakes in the event of another organisation-impacting disaster?
  - i) Is your organisation prepared?
  - ii) How so?
  - iii) Are there any areas in which your organisation could improve to become better prepared to handle any crisis or disaster?
  - iv) If so, what are the areas in which your organisation could improve?

## **Appendix D: Follow-up email with URL link to Business Continuity Plan Library**

Hi [research participant],

Thank you so much for participating in this research and carving our time from your busy day to speak with me on [date]. The next step will be for me to transcribe the interview and send it to you for review. That will take some time. I will try to have it to you within the next few weeks.

In the meantime, I'd like to provide you with a link to the business continuity planning resource library I created for research participants. Feel free to use and/ or share the resources and the link below as you like. I truly hope that it will be useful, which is why I created it. Also, if you have any questions about any of the material in the library or business continuity planning, don't hesitate to reach out and I will help as best I can.

Link: [https://www.dropbox.com/sh/zqdzh58s6afg2lm/AABjV97Gt4K\\_gKZTsZOjIdS3a?dl=0](https://www.dropbox.com/sh/zqdzh58s6afg2lm/AABjV97Gt4K_gKZTsZOjIdS3a?dl=0)

Again thank you for participating in this research.

With Kindest Regards,

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New Zealand  
021-081-61564