

# **Disaster Recovery of Small and Medium Enterprises (SMEs) – A Case of Recovery from the Canterbury Earthquakes 2010-11**

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the requirements for the Degree of  
Doctor of Philosophy in Management  
in the University of Canterbury

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## **Dedication**

To my Mama (ماما), Abbu jee (ابو جی) and my Husband, Rizwan Ahmad (رضوان احمد) for their love, support and prayers

## Acknowledgements

My PhD has explored how small businesses recover in a post-disaster scenario. One of the key aspects I have identified is related to their social capital. Looking back at my PhD journey, the last few years have been the same for me. I am greatly indebted to the people in my formal and informal networks. These include my two brilliant supervisors, my husband, my family in Pakistan, my family in New Zealand, friends, academics and my fellow PhD colleagues at the University of Canterbury. They have shared knowledge, resources, encouragement, and care which have enabled me to complete my PhD thesis. I would like to thank all the people who have helped me to survive and thrive during my PhD.

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## **Abstract**

The initial goal of this research was to explore how SME business models change in response to a crisis. Keeping this in mind, the business model canvas (Osterwalder & Pigneur, 2010) was used as a tool to analyse SME business models in the Canterbury region of New Zealand. The purpose was to evaluate the changes SMEs instituted in their business models after being hit by a series of earthquakes in 2010 and 2011. The idea was to conduct interviews with business owners and analyse them using grounded theory methods. As this method is iterative and requires simultaneous data collection and analysis, a tentative model was proposed after first phase of the data collection and analysis. However, as a result of this process, it became apparent that owner-specific characteristics, action orientation and networks were more prominent in the data than business model elements. Although the SMEs in this study experienced several operational changes in their business models, such as a change of location, modifications to their payment terms or expanded/restricted target markets, the suggested framework highlights how owner-specific attributes ensured the recovery of their businesses.

After the initial framework was suggested, subsequent interviews were conducted to test, verify, and modify the tentative model. Three aspects of business recovery emerged: (a) cognitive coping – the business owner’s mind-set and motive; (b) adaptive coping – the ability of business owner to take corrective actions; and (c) social capital – the social network of a business owner, including formal and informal connections and their significance. Three distinct groups were identified; self-sufficient SMEs, socially-based SMEs and surviving SMEs.

This thesis proposes a grounded theory of business recovery for SMEs following a disaster. Cognitive coping and social capital enabled the owners to take actions, which eventually led to the desired outcomes for the businesses.

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## List of Abbreviations

Canterbury Development Corporation (CDC)

Canterbury District Health Board (CDHB)

Canterbury Earthquake Recovery Authority (CERA)

Canterbury Earthquake Recovery Commission (CERC)

Canterbury Earthquake Response and Recovery Act 2010 (CERR Act)

Canterbury Employers Chamber of Commerce (CECC)

Canterbury Television (CTV)

Central Business District (CBD)

Christchurch City Council (CCC)

Department of the Prime Minister and Cabinet (DPMC)

Disaster Risk Management (DRM)

Earthquake Commission (EQC)

Earthquake Support Subsidy (ESS)

Emergency Events Database (EMDAT)

Employee Count (EC)

Global Financial Crisis (GFC)

Gross Domestic Product (GDP)

Ministry of Business, Innovation and Employment (MBIE)

Pyne Gould Corporation (PGC)

Resilient Organisations (Resorgs)

Small and Medium Enterprises (SMEs)

United Nations International Strategy for Disaster Reduction (UNISDR)

United Nations Office for Disaster Risk Reduction (UNDRR)

University of Canterbury Human Ethics (HEC)

# Chapter 1. Introduction

## 1.1. Overview

This thesis seeks to understand how small and medium enterprises (SMEs) recovered and continued operating in the aftermath of a natural disaster. The greater Canterbury region of New Zealand was hit by a series of earthquakes in 2010 and 2011, which created a new challenging environment for local businesses. This thesis investigates how these businesses recovered and adjusted to this new environment.

This thesis investigates an often-ignored sector, small businesses also referred to as SMEs. According to the New Zealand Ministry of Business, Innovation and Employment (MBIE), SMEs are the backbone of New Zealand: 97 percent of all businesses in New Zealand have 20 or fewer employees (Employee Count (EC): 0-20) (MBIE, 2019b). There is no denying that in New Zealand, SMEs constitute a major portion of the economy. They provide goods and services to local communities. They generate employment and increase the country's GDP. They are an integral part of the economy because they provide products and services for a specific locality, premises, or target market. The SME sector contributes 26 percent of New Zealand's Gross Domestic Product (GDP) (MBIE, 2019b). Table 1-1 provides a summary of these facts. This thesis acknowledges SMEs' importance and seeks to explore how best to ensure their recovery after a major disaster or event.

<b>Total businesses</b>	<b>535,000</b>
Percentage of SMEs	97% (487,602 businesses)
GDP of SMEs	26%
Employment percentage of SMES	29% (599,880 Employees)

**Table 1-1: SME statistics – New Zealand 2019; Source: MBIE (2019b)**

Although they are crucial for the economy, small businesses face many challenges, including limited resources, particularly scarce human resources. They do not have the same ability to cope with a disaster and produce goods quickly as the larger businesses. Furthermore, SMEs often compete with chain stores and shopping malls. A major struggle for SMEs includes attracting and retaining their customer base. However, these challenges do not restrict the passion and ability of the businesses to choose a niche market, area and customers to offer them goods or services.

Considering the importance of the SME sector to the New Zealand economy, it is surprising that very few studies have considered SMEs' recovery. Instead, most of the research focuses on other social,

cultural and technical domains (Ardagh et al., 2012; Thornley, Ball, Signal, Lawson-Te Aho, & Rawson, 2015). This thesis examines the combination of two domains: SMEs and their recovery from disasters.

Natural disasters are considered catastrophic events because of the damage they cause. Disasters create numerous challenges for small businesses. Generally, they are the most vulnerable businesses in the economy (Potter, Becker, Johnston, & Rossiter, 2015) and in times of a natural disaster, the situation gets worse for SMEs. They often have limited cash reserves and therefore struggle to recover after a disaster such as earthquakes.

Natural disasters are inevitable. Natural disasters such as earthquakes and tsunamis can be categorised as low frequency and high impact events. These events have a high impact on the general population in terms of casualties and injuries. Over the last few decades, there has been a reduction in the loss of human life due to the effectiveness of early prediction systems, improved infrastructure and, most importantly, better preparedness and response strategies (EMDAT, 2019). According to EMDAT (2019), approximately 60,000 people die annually due to natural disasters, which represents 0.1 percent of the overall death toll globally. This number varies year to year; while some years there are fewer deaths due to natural disasters, in other years there are more. For example, the 2004 Indian Ocean earthquake alone caused the deaths of 226,226 people. Nearly 50,000 people also remain unaccounted for (Rossetto et al., 2007). In addition to fatalities, natural disasters also negatively impact upon the economic, environmental and social prosperity of a region/country (Baker, 2009).

Most people see natural disasters in a negative way – all the damage and harm that they cause brings a negative connotation to disasters. This thesis reframes the thinking around disasters to the extent that businesses should also see them as an opportunity for change. This thesis argues that, despite all the challenges associated with disasters, they ultimately provide opportunities to learn and grow. This thesis seeks to provide a new way of looking at a disaster; seeing them as a catalyst for change. This thesis also argues that business owners of SMEs can deal with the consequences of a disaster in a more effective way. While disasters are considered catastrophic and costly; they provide opportunities to grow, learn and improve.

In the Canterbury region, the post disaster environment was characterised by disruptions, hassles and unrest. The Central Business District (CBD) of Christchurch was affected by the collapse of hundreds of buildings and the loss of precious lives. The city was shaken physically and psychologically. The roads were damaged and there were transportation problems in the city. Locals were afraid to go to shopping malls or large buildings. Despite these problems, life had to continue. After a while people

started to return to 'normal,' or a 'new normal.' This study focuses on small businesses who continued operating and some of which recovered even thrived in the new environment.

This thesis sought is to investigate experiences of SMEs which were affected by the Canterbury earthquakes and how they were able to recover. My research expands the concept of SMEs' recovery and adjusting to a new environment by interpreting businesses' narratives of post-disaster changes using the qualitative research methods and case study approach to understand what helped them in their recovery and what was learnt from their experience. The aim is to provide a theory that can be applied for SME recovery and growth in the face of a major disruption. This chapter provides the foundation of the thesis. It elaborates the background/context, explains the relevant terms, defines objectives and overall approach of the thesis. The next section provides an overview of the study's background.

## 1.2. Background

This section provides an overview of the context of this study including overall of 2010 and 2011 Christchurch earthquakes, their impact to the business community and response activities from government and business community. New Zealand is located on the Pacific and the Australian tectonic plates (Figure 1.1), which makes it an earthquake-prone country. The Canterbury region was hit by two major earthquakes in 2010 and 2011, followed by hundreds of aftershocks. The Canterbury earthquakes remain an extensively researched topic due to the economic, infrastructure and societal challenges these series of earthquakes posed for New Zealand (Royal-Society-NZ, 2011).

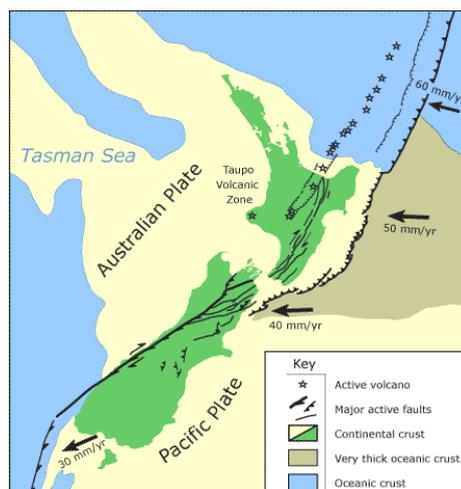


Figure 1.1 - The Pacific and Australian tectonic plates<sup>1</sup>

<sup>1</sup> <https://www.waikatoregion.govt.nz/Services/Regional-services/Regional-hazards-and-emergency-management/Earthquakes/Earthquake-plates/>

### **1.2.1. The day it started – the 4th September 2010**

The first major earthquake hit on the morning of September 2010. It was centred 40 km away from Christchurch in the Darfield area and measured 7.1 on the Richter scale; this initial earthquake was followed by series of earthquakes and aftershock (GNS, 2011). This earthquake was the first major earthquake near an urban centre since the 7.8 magnitude Hawke's Bay earthquake in 1931. After the initial earthquake, the city experienced a series of aftershocks including 135 aftershocks greater than magnitude 4, 13 of which were greater than magnitude 5 (until Nov 2010) (Wood, Robins, & Hare, 2010).

As the earthquake struck in the early hours of Saturday morning, when most on the people were sleeping, there were minimal casualties: there were only two individuals seriously injured and no fatalities. There was liquefaction in several areas. The impact was the worst in Kaiapoi and Rangiora, two towns in the Canterbury region. Nearly 1000 commercial and 900 residential buildings were assessed for damage. By December 2010, the Earthquake Commission (EQC) had received insurance claims from 142,635 homeowners. The businesses in these areas were badly affected due to the sheer size of the locality and problems with road access. The cost of residential and business recovery were the biggest economic losses and were initially estimated at \$4 billion (Wood et al., 2010). The initial quake was followed by aftershocks for several days.

Following the first earthquake, the city experienced 32 shallow aftershocks, including a 4.9 magnitude earthquake on Boxing Day, 2010. Boxing Day is one of the busiest retail days in New Zealand. This earthquake resulted in negative perceptions about the city centre which ultimately impacted retail and hospitality businesses in the area (Stevenson, 2014).

### **1.2.2. The second earthquake**

The second major earthquake, which was an after-shock of the September, 2010 earthquake, struck the largest urban centre in the South Island of New Zealand. It was lunch time when a 6.3 magnitude earthquake jolted Christchurch city. The epicentre was 10 km south-east of Christchurch (GNS, 2011). Compared to the September earthquake, the impact of the February earthquake was more severe: There were a total of 185 fatalities with approximately 6000 people injured. Over 200 people were left with permanent disabilities. Most of the fatalities was occurred in two buildings in the city centre; 115 people died in the Canterbury Television (CTV) building and 18 in the Pyne Gould Corporation (PGC) building (NZ-Police, 2012). Apart from the fatalities, the earthquake and the aftershocks also damaged water and power pipelines; phone and mobile services were also affected. Though smaller

than the first major earthquake, its effect was more severe. The location of the earthquake meant that more buildings were damaged and sadly, more lives were lost. The city was in chaos. Most people left work to move their family members outside of Christchurch.

On the 22nd of February, a National State of Emergency was declared. This lasted until the 30th of April 2011. Various local and international USAR personnel helped during response efforts. Following the February earthquake, the city experienced other significant earthquakes: on the 13th of June (5.3 and 5.9 magnitude) and the 23rd of December (5.8, 5.4 and 6.0 magnitude). These earthquakes caused significant damage to the already affected infrastructure and, most importantly, negatively impacted local residents' psychosocial wellbeing (Banwell, 2017). In Christchurch, the Central Business District (CBD) was "red-zoned." This meant that individuals who worked in and/or owned businesses in this area were unable to access their workplaces. The government made this decision due to the extensive damage to roads and buildings and to prevent further loss of life. These were hard times for small businesses because most had limited resources and/or insurance.

### **1.2.3. Impacts**

#### ***1.2.3.1. Impact on commercial activities***

Canterbury region is part of New Zealand's South Island and is situated in the Eastern part of the Island. In term of population, in 2018 Canterbury was home to 614,628 people. Of these, 378,480 people (almost 62%), live in Christchurch City (NZ stats, 2019). The local government is made up of 10 councils, including the Christchurch City Council and nine District Councils.

In term of population, the earthquakes negatively impacted the residential population in the Canterbury region. As the epicentre of earthquakes were relatively close to Christchurch city, it badly damaged the city's infrastructure and buildings. Many areas of the city were badly impacted, which resulted in a reduction in the residential population. Table 1-2 shows residential populations over the last three censuses (2006, 2013 and 2018), Christchurch city experienced a reduction in the population after the earthquake, as indicated by the 2013 census. Areas like Christchurch's CBD, Kaiapoi and Redcliffs were more impacted. Significantly, these areas have not returned to pre-earthquake levels as shown by the 2018 census (StatsNZ, 2019).

Areas	2006	2013	2018
Christchurch City	361,968	350,889	378,480
Christchurch CBD area <sup>2</sup>	12,960	5,796	7,959
Kaiapoi	9,744	8,004	7,569
Rangiora	4896	6,801	8,469
Redcliffs	2,058	1,722	1,947
Sumner	3,876	3,510	3,537

**Table 1-2: Residential Population; Source: StatsNZ (2019)**

Similar trends are evident in terms of the total number of businesses. Overall, the total number of businesses and employees declined during the earthquake period of 2010-2011. For example, the Canterbury region experienced a 2.3% decline over the three-year period (2010-2012) compared to the number of businesses in 2009. In terms of employee numbers, the Canterbury region faced a slight reduction in 2010; however, the following year there was an upward trend. This reduction in businesses and increase in employees from 2010-2013 could be due to increased demand in construction and critical infrastructure sectors (refer to Table 1-3). The total number of businesses and employees reached pre-earthquake levels between 2013-2014 (StatsNZ, 2019).

	Waimakariri District		Christchurch City		Canterbury Region	
	Businesses	Employees	Businesses	Employees	Businesses	Employees
2008	5,859	10,500	38,061	195,900	65,121	265,400
2009	5,922	10,400	38,373	190,400	65,793	259,800
2010	5,886	10,400	37,851	185,400	65,163	255,100
2011	5,841	10,500	37,410	185,600	64,749	255,300
2012	5,943	11,600	36,684	184,000	64,290	257,100
2013	6,042	12,100	37,593	188,600	65,535	264,300
2014	6,264	12,900	39,459	198,100	68,373	277,700
2015	6,435	13,700	40,659	204,200	70,485	285,900
2016	6,441	14,100	41,544	206,700	71,376	289,800
2017	6,489	14,800	42,219	209,100	72,219	293,000
2018	6,456	15,200	42,279	216,900	72,144	303,400
2019	6,453	15,200	42,771	217,500	72,714	305,300

**Table 1-3: Change in number of businesses and employees from 2008-2019; Source: StatsNZ (2019)**

<sup>2</sup> The data collected from Stats NZ, and the Christchurch CBD area includes Christchurch Central-West, Christchurch Central-North, Christchurch Central, Christchurch Central-East and Christchurch Central-South.

### **1.2.3.2. Economic**

The 2010 and 2011 earthquakes are the most expensive natural disaster in New Zealand's recent history. They cost around \$40 billion, which equates to 20% of the country's Gross Domestic Product (GDP) (Deloitte, 2015).

The earthquakes resulted in a significant portion of the local population relocating to other cities or the outskirts of Christchurch. In the first two years following the earthquakes, the city observed a 3% drop in total population. The population level reached to the pre-earthquake level in 2016 with an estimated 488,900 resident living in greater Christchurch (StatsNZ, 2017). The earthquakes led to imbalances in the labour market, land crises, capital and infrastructural losses and disrupted normal business operations. Based on the significant impact to the city, huge recovery cost was expected to restore the city to normal. However, the businesses were more resilient and more adaptive than expected (DPMC, 2017).

### **1.2.3.3. Social**

The earthquakes negatively impacted Canterbury residents' mental wellbeing and quality of life. The Canterbury Earthquake Recovery Authority (CERA) conducted the first wellbeing survey in September 2012. The result showed a decreased quality of life for Canterbury residents for the 12 months preceding the survey (CERA, 2012). Quality of life has improved over the past few years and has been stable since the April 2016 survey (CDHB, 2018). The survey included a list of 12 potential issues that negatively impacted the population. In the May 2018 survey, an increased percentage of participants reported the loss of indoor sports and active recreation facilities (13%) and the loss of outdoor sports and active recreation facilities (10%) as having a moderate or major impact on their lives (CDHB, 2018).

The survey also explored the positive impact of the earthquakes for Canterbury residents. For example, in the first survey (September 2012), 36 % of the participants reported increased resilience in their everyday lives. Over 40% of respondents reported feeling proud of their ability to cope in difficult circumstances (CERA, 2012).

### **1.2.3.4. The government's role post-earthquake**

Following the September earthquake, the Government appointed Minister Gerry Brownlie responsible for earthquake recovery. He established the Canterbury Earthquake Recovery Commission (CERC) and the Government passed the Canterbury Earthquake Response and Recovery Act 2010 (CERR Act). The main responsibility of CERC was to advise on earthquake issues. The

commission consisted of Mayors from Christchurch City, the Selwyn and Waimakariri Districts, and four other appointees (Banwell, 2017). Following the February earthquake, the Government passed more legislation: the Canterbury Earthquake Recovery Act 2011 and replaced CERC with the Canterbury Earthquake Recovery Authority (CERA). This redefined commission was given special authority to facilitate and coordinate the recovery and rebuilding efforts. CERA was finally disestablished on the 18th of April 2016<sup>3</sup>.

In addition to CERA, the national government was deeply involved in supporting and stabilising commercial activities in Canterbury. The national government provided financial support for both public and private organisations in the Canterbury region. An Earthquake Support Subsidy (ESS) was launched on the 28th of February, just six days after the earthquake. This programme included financial support for small businesses to enable them to survive through the initial stages of the earthquake recovery (Fischer-Smith, 2013).

The February earthquake led to collaboration among business consortiums in the Canterbury region. For example, in March 2011, the Canterbury Development Corporation (CDC) and the Canterbury Employers Chamber of Commerce (CECC) joined to form Recover Canterbury. The aim of this group was to provide support for local business. They were involved in various activities such as setting up business recovery centres, organising workshops and events to enable networking opportunities and providing business recovery advice (Stevenson et al., 2011).

### **1.3. SMEs significance**

Small and medium enterprises have been discussed intensively in several streams of literature, including business, management and economics. These streams of literature typically focus on explaining normal or business as usual situations; they do not address what happens to these small firms in the case of unexpected events or disturbances.

SMEs contribute to society and communities in different ways. They serve as learning and training grounds for individuals to develop industry-specific skills. They are major source that provide goods and services, particularly in niche areas which larger organisations find hard to provide with the focus mass production to benefit from the economies of scale. They also the starting points of innovative products/offering which implement new ideas in domestic economies quicker than the larger organisations. Within smaller countries like New Zealand, their importance is amplified because these

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<sup>3</sup> (<https://dpmc.govt.nz/our-business-units/greater-christchurch-group/roles-and-responsibilities/disestablishment-cera>)

businesses play a role in maintaining the livelihood of many people as well as maintaining the liveliness of the community. In many small cities and towns residents rely on these small businesses for a range of goods and services.

The SME sector faces numerous challenges. For example, many retail and restaurant businesses experience higher uncertainty about new entrants. They do not have enough resources to hedge themselves against this threat. They also have low bargaining power while competing with larger businesses. This also takes them to the edge of survival in a usual business environment. Despite all of this, many SMEs manage to succeed. However, business-as-usual is challenging for small businesses, particularly when there is an unexpected event. My research focuses specifically on how small and medium firms responded and reacted to the devastating aftermath of the Christchurch earthquakes.

#### **1.4. Research objectives**

Disasters disrupt SMEs' routines and compel them to change their business practices and/or transform their business models. My research focuses on how small businesses adapt to natural disasters by examining how their businesses operated in the aftermath of a disaster. This thesis particularly investigates how small and medium enterprises (SMEs) recover in the face of disasters by considering the challenges they faced and how they approached the post-disaster environment. Osterwalder and Pigneur (2010) business canvas model was used as a tool to develop questions about working aspects of each individual business. Particularly, this model helped to develop questions around the challenges businesses faced in the new post-earthquake environment and what changes businesses made as a response to these challenges. Additionally, I explored the differences between those businesses that flourished and those that remained the same. The thesis explores small business owners' and managers' experiences of dealing with major disruptions and mechanisms they adopted carrying on with their operations.

The next section defines and clarifies some of the terminology used in the thesis.

#### **1.5. Defining terms and explaining their importance**

Key terms used throughout the thesis are defined below.

### 1.5.1. Organisations

Organisations are comprised of three major elements: people, a structure and a purpose. Any entity which has a specific structure comprised of people/employees working for a common goal is called an organisation. Organisations are backbone of any economy. They provide income for their employees and generate goods and services that the community consumes. There are different types of organisations. They can be divided into different categories based on their ownership structure (sole proprietors, partnerships, private or public organisations), their turnover size (\$ amount) or by their total number of employees (0-5 employees, 20-50 employees) (MBIE, 2019a).

### 1.5.2. Small and medium enterprises (SMEs)

This thesis categorises organisations based on their total number of employees. This research focused on organisations which have a total number of employees between 0-20 (MBIE, 2019a). Table 1-4 shows the number of firms in New Zealand and how they are categorised.

Type	Employees	No. of firms
Zero	0	401,000
Micro	1-5	101,000
Small	6-19	40,000

Table 1-4: SMEs in New Zealand; Source: MBIE (2019a)

Smaller organisations differ from larger organisations in many respects, not least their daily operations. SMEs typically have closer relationships with their customers. People often do not see them as businesses but more like neighbours, due to their embeddedness in the local community.

### 1.5.3. Disasters

The term 'disaster' is commonly used with reference to an event which has unwanted consequences. These consequences are often unfavourable for individuals, businesses and societies. Disasters bring interruptions to normal, routine life (Rodríguez et al., 2007; Ursano, Fullerton, & Norwood, 1995). Disasters are often broadly categorised in two types: natural and human-made disasters. This distinction is based on what is seen as the primary cause of the disaster. For example, industrial accidents, work-place hazards, IT system failures or an explosion at a nuclear power plant are considered human-made disasters. In contrast, earthquakes, tsunamis, volcanic eruptions or extreme weather events are considered natural disasters because they are caused by natural phenomena (McDonald, 2003).

Some authors (see for example, Cutter (2006); Mileti (1999); Spector (1987)) however, argue that no disaster is a 'natural' disaster. They distinguish between hazards and disasters. They propose that the term 'natural disaster' is really an umbrella term that refers to the losses associated with a natural hazard. In this view, a natural hazard combines with other social and built environments to create a 'disaster'. The root cause of the damage is not solely natural, rather it is also attributable to human causation and the extent to which humans plan for and prepare their social and built environments. These authors argue that the disaster-related losses are mostly predictable and can be prevented with proper planning and infrastructure in place. The disasters and the growing losses from such events involve the interaction of three major systems; (a) the physical environment which contains hazards (sometimes referred to as the natural environment (Norman, 2006)) (b) the social environment, which involves communities and their interactions and experiences and (c) the built environment which is comprised of roads, buildings and other constructed structures (Mileti, 1999). The interaction of these systems results from a combination of several factors. First, the physical environment is constantly changing, with growing global warming bringing more severe climatic events such as floods, droughts and extreme temperatures. Secondly, the number of people inhabiting earthquake prone areas and coastal countries is rapidly increasing. Likewise, wealth disparity means that many people and communities are vulnerable to physical hazards because they do not have sufficient resources to protect themselves and/or recover when adverse events occur. In addition, the built environment, including our public spaces, residential high rises, and office buildings, is becoming more densely populated. Failure to effectively manage the above mentioned environments (the natural, social and built environments) and their elements increases the likelihood of greater damage resulting from a natural event (Tierney, 2007b). The interaction of these environments becomes more complex, as human interaction with nature has destroyed normal or natural patterns, such as water runoffs, and magnified the impacts of natural hazards (Mileti, 1999). Hence, these researchers see disasters and the resulting damage as a direct effect of human activities.

Other researchers and writers continue to use the term "natural disaster" (see for example, Aldrich (2012); Taylor (2016); (Norris, Friedman, & Watson, 2002a); (Norris et al., 2002b) and (Kaniasty, 2012). They distinguish between human-made and natural disasters based on the more evident causality associated with the event. For example, fire, air crashes and chemical/oil spillages are human-made disasters which can be avoided through ensuring there are proper procedures in place. For example, large scale accidents in modern history such as Chernobyl and the Challenger are seen as failures of organisational practices and technology. These human-made events "stem from an incubation of latent errors and events which are at odds with the culturally taken for granted, accompanied by a collective failure of organizational intelligence" (Pidgeon & O'Leary, 2000, p. 15). In other words,

human-made disasters are considered preventable if the proper management and regulatory practices had been applied (Coleman, 2006). Nearly every potential crisis is thought to leave a repeated trail of early warning signals prior to its actual occurrence (Mitroff, 1988). Thus, if organisations could detect and understand these early warning signals, attend to these signals, and take corrective actions, then there is a possibility of preventing such human-made disaster from ever occurring (Pidgeon & O'Leary, 2000).

In contrast, lightning, floods, tsunamis and other extreme weather events are seen as natural disasters which stem from natural phenomenon (Alexander, 2018). Sjoberg (1962) defines a natural disaster as an extreme, relatively sudden, and unexpected disruption in the normality of life which is not subject to societal control. Drabek (1987) combines 'accidental' and 'uncontrollable' events to define disaster. This thesis uses the term 'natural disaster' in its broader sense, based on the scope and magnitude of the disruption it causes for the community and its people.

A second distinction that is used, differentiates between the two main categories of natural disasters; 1) sudden and 2) gradual onset natural disasters.

Sudden onset natural disasters typically involve unpredictable events, such as lightning or earthquakes, which can occur without any warning (Perez & Thompson, 1994a). In contrast, gradual onset natural events typically occur over a period of time. Slow-onset disasters typically result from unsustainable development practices, industrialisation and the exploitation of natural resources which generate slow disasters such as land degradation, drought, and desertification (Hannan, 2002).

Based on the above categorisation, the Canterbury earthquakes, which created the setting for this study, are considered to be a natural, sudden onset disaster. According to Perez and Thompson (1994b) earthquakes are form of natural disasters, which bring sudden impact with a little warning in advance; they may occur any time of day or on any day of the year. The very nature of the movement of plates underneath the earth's crust generate the earthquakes which are natural phenomena. The 2010 and 2011 earthquakes were the most expensive natural disaster in New Zealand's recent history; their consequences were significant. They cost approximately \$40 billion, which equates to 20% of the country's Gross Domestic Product (GDP) (Deloitte, 2015). Declining trends were evident in terms of the total number of businesses. Overall, the total number of businesses and employees declined during the earthquake period of 2010-2011. For example, the Canterbury region experienced a 2.3% decline over the three-year period (2010-2012) compared to the number of businesses in 2009 (StatsNZ, 2019).

Despite the differing emphases of natural or human-made disaster definitions, both schools of thought agree that the disasters require planning to i) avoid the event, ii) control the hazards, iii) mitigate their effects and consequences and iv) recover from the aftermath (White, 1974). Planning is crucial. They understand that the impact of disasters can be reduced by creating resources and enhancing abilities. Planning, developing strong infrastructure and creating awareness about preparing for, and coping after a disaster is essential. Planning must happen at a variety of levels: government (Perry & Lindell, 2003), community (Cutter et al., 2008) and individual levels (Paton & Johnston, 2017). The risks can be reduced by combining the efforts of these three levels.

**Impact on businesses:** The role of SMEs becomes even more vital in times of crisis because they are basic providers of products which keep a city functioning and growing. Disasters, such as earthquakes, create disruptions to daily routines. The impact of a disaster on the organisations is often determined by the magnitude of the event. In addition to coping with a disaster, organisations play a vital role in restoring or rebuilding a community. Small businesses often provide opportunities for work, relaxation and leisure and that they are an important part of people's everyday routines. If these businesses are not functioning, then people struggle to feel normal because their routines are disrupted. Community recovery is interwoven with the recovery and growth of the affected businesses. Recovery also depends on how businesses work together and contribute to overall community (Davies, 2015). However, in order to contribute to community, businesses need to carefully plan their paths for recovery. They need to accept the challenges which a new business environment brings. This can be particularly challenging for SMEs who struggle with limited resources and/or financial backing, and a narrow customer base. Therefore, it is necessary to study SME's business practices and how they manage in times of crisis.

Disasters pose many challenges for SMEs such as reduced customer footfall due construction work outside of the business premises, disruptive production due to intermittent power or water supply and poor internal business operations due to owners' poor wellbeing. These disruptions may impact on a business' ability to remain open or to operate 'normally'. The businesses in this study faced these immediate impacts but when the data was collected there was already a time span of about six years after the earthquakes. By this point, the businesses had settled into a new normal and most were thriving in the new environment.

#### **1.5.4. Recovery of businesses – Post-disaster**

The importance of small businesses becomes critical for the neighbourhood and vicinity in the post-disaster scenario. When a disaster happens on a large scale like a tsunami or earthquake, the supply

of goods is often disrupted. The central or local government often focus on fixing the infrastructure and thus small firms are usually neglected in times of crisis. As a result of research on SMEs, there is now greater awareness about the importance of helping SMEs during times of crisis, as many people realise the role these companies play in providing both products and services and also employment. Despite increased interest in this field, there are a lot of unanswered questions and underexplored areas, such as how SMEs recover during times of crisis. This thesis contributes to this small but significant body of literature by examining how SME's recover after disasters. More specifically, it identifies key factors which are personal, internal business processes and the external resources businesses utilise.

#### **1.5.5. Business model**

Business model refers to the layout of an individual business either explicitly stated or implicitly practised. This layout is not necessarily physical layout of the business but how the business activities, such as deciding the market, value proposition or customers, are carried out to make the business profitable. In the literature, the business models of SMEs are not discussed in the context of post-disaster. The goal of this research was to investigate how SMES adopted after the Christchurch earthquakes to ensure their recovery. Keeping this in mind, the business model canvas (Osterwalder & Pigneur, 2010), depicting nine elements of business activities, was used to as a tool to analyse SME in greater Christchurch area. The purpose was to evaluate what contributed to recovery of the SMEs and what changes SMEs made to their approach to daily routine after being hit by a series of earthquakes in 2010 and 2011.

**Why business model as a tool:** A business model provides a plan for how a business operates and includes information and strategies for dealing with suppliers and customers. It outlines the steps that a business takes to ensure that goods are acquired, processed and sent to customers without mishaps or delays. The primary objective of a business model is to create and capture customers while making a profit. It is important to analyse the businesses through business model lens as it outlines decision processes and how the company works. When a disaster strikes, it usually affects one or several major parts of the city and whole supply chain is damaged. Therefore, it is important to consider all aspects of a business in order to analyse what makes it recover from a disaster.

#### **1.5.6. Recovery of SMEs**

This thesis aims to identify aspects of small businesses which help them recover in adverse environments. For the purpose of this study, the recovery of an SME is defined as the ability of that

business to continue either intact or without major modifications to the business following a disaster or an external adverse event.

## **1.6. Motivation and need for research**

A small number of studies have examined how SMEs respond to extreme events. SMEs are the vulnerable entities which are significantly affected by extreme events. All businesses should have plans in place for how to deal with the effects of an adverse event. Alongside minimising these effects, SMEs require strategies for returning to normal as quickly as possible (Ingirige, Jones, & Proverbs, 2008). After the February earthquake, one of the key challenges for SMEs was access to business premises for the purpose of stock retrieval and to estimate the damage to their buildings, equipment and data. In Canterbury, business recovery personnel faced challenges related to cash flow/finance management, relocation issues, marketing and insurance claims.

Many small business owners interviewed for this thesis were also dealing with their own personal problems such as their children's mental health issues and home insurance claims. This thesis examines how business owners' strengths and decision-making processes either enabled their businesses to recover, thrive or fail in the new environment.

This thesis builds on earlier studies of small businesses in the Canterbury region to argue that SMEs should see adverse conditions as a catalyst for improving their businesses and changing the status quo. Hatton (2015) stated that reframing one's mind-set from a negative perception to a positive perception, after a disaster, will change the way one looks at the world. Likewise, Stevenson (2014) suggests that there were positive elements which emerged, such as unprecedented collaboration among organisations in affected areas.

As noted above, there are only a few studies which have examined personal and human factors in terms of small business recovery. This study thus investigates how business practices and human characteristics simultaneously influence business recovery after a major disaster. It must be acknowledged that some parts of business model elements have been addressed separately to recovery of large organisation. For example, 'key partners', one element of the business model canvas (Osterwalder & Pigneur, 2010), has been examined under supply chain resilience (Sheffi, 2005). Additionally, key resources (employees and operations) have also been studied examined in several studies (Bardoel, Pettit, De Cieri, & McMillan, 2014). However, no study has investigated SMEs through the tool of business model canvas (Osterwalder & Pigneur, 2010) alongside personal characteristics on their recovery.

### **1.6.1. Problem statement**

Little is known about owners of SMEs in terms of how they behave in times of crisis, how they recover and potentially thrive in times of disaster. While there has been some literature on SMEs in general, there has been very little on how SMEs deal with adverse events. Questions arising from the above discussion are: 1) what did small businesses do to maintain their businesses and grow in the uncertain and dynamic environment? 2) What challenges did the businesses faced while adapting to the new normal? 3) What resources did businesses need to keep going? 4) To what extent did the post disaster environment change? My research provides in-depth answers to these questions by analysing business owners' actions. More specifically, there is very little work on the relationship between personal characteristics, business practices and the external environment. This study brings these three elements together in its investigation of SME recovery. The purpose of this research...., is to analyse the experiences and stories of SMEs' business recovery trajectory in the greater Canterbury region addressing the central the research question;

**Research Question:** How do small businesses evolve and recover following a major natural disaster?

### **1.7. Research strategy**

This thesis used a qualitative approach to understand the process of SME adaption and recovery. Qualitative research can be used to investigate unexplored phenomenon (Saunders, 2011). How and why questions often call for exploratory research (Yin, 2017). This approach required taking ideas from different business management fields to gain a better understanding of how SMEs functioned in the post-disaster context. This research draws on interpretivism, which believes that human beings are unique and create meaning from their own surroundings (Walsham, 2006). This qualitative study adopts a case study approach (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Yin, 2017) with grounded theory methods (Charmaz, 2014). The research investigated 32 case studies from the Canterbury region in the South Island of New Zealand. This research used a holistic (single unit of analysis) and multiple case study design.

The data was collected in two phases; both phases used semi-structured interviews. In the initial data collection phase, nine cases were analysed to understand emerging aspects in the data. A tentative framework was developed at the end of this process. An abductive approach was adopted to create, modify, and verify the framework. The analysis was an iterative process and used grounded theory methods (Charmaz, 2014) such as first cycle coding, second cycle coding and memoing. In the second phase of data collection and analysis, the tentative framework was tested, verified, and modified using

an additional 23 cases. A theory of SME recovery in post-disaster situations was generated using the results from the data analysis.

## **1.8. Thesis structure**

This thesis is structured as follows:

**Chapter 2** discusses the relevant literature on SMEs in terms of the post disaster context. It begins by examining the studies conducted on the SME sector in general. This chapter discusses the post disaster context in general, and SMEs' dynamics after the disaster, in particular. The literature chapter contains definitions of SMEs, implications of the disaster scenario for SMEs and post disaster recovery. Lastly, the chapter outlines gaps in the current literature on SMEs recovery. This chapter provides the foundation to explore the topic in more detail and sets the stage for the methodology chapter.

**Chapter 3** discusses the paradigms, approaches and methods used in this thesis. This chapter provides a summary of the methods used to contact and interview Canterbury businesses. It acknowledges the potential biases from the researcher's side and the research design. It also provides an overview of the paradigms and approaches available for qualitative researchers and offers justifications for the selected options. It outlines the human ethics application and data collection processes. It also discusses the grounded theory methods of coding and memoing.

**Chapter 4** provides a summary of the initial data collected and analysis of these three cases. The analysis revealed that the business model did not play a significant role in the chosen businesses' recovery. Instead, the analysis revealed several other, more important factors. This chapter demonstrates how I coded the interviews and created initial categories. The chapter includes excerpts from my reflective memos to illustrate the process. The chapter concludes with a summary of the developed codes which were used to guide later interviews.

**Chapter 5** develops the initial framework. A further six interviews were conducted to identify emergent categories and business models elements. I retained questions about the business model because I did not want to reject the idea based on three interviews. However, these later interviews confirmed that the business model did not play a significant role in the businesses' recovery. The initial analysis of the first nine interviews enabled the creation of a framework of emergent themes.

**Chapter 6** introduces the first theme in the theory of small business recovery. The initial framework led to the discovery of one major aspect in the analysis which was worth exploring in the later interviews – the business owner's mind-set. The analysis was conducted using the same grounded

theory methods as previous chapters (Charmaz, 2014). This involved First Cycle coding and Second Cycle coding for all 23 interviews (conducted during the second phase of data collection). The coding was performed simultaneously with reflective memo writing. Grounded theory methods enabled me to investigate, in detail, the business owners' actions and patterns of behaviour. This chapter provides different examples of how business owner's mind-set enabled them to cope with the situation (as outlined in the cognitive coping framework). This framework shows how business owners how commitment, positive thinking and belief in one's self help are crucial to business recovery.

**Chapter 7** explores, in detail, the action orientation of SMEs during challenging times. This chapter extends the development of adaptability and adjustment which was introduced in Chapter 6 (the initial model). After the earthquakes, business owners devised certain operational changes for their businesses, such as expanding their services, shifting their focus to other target markets, relocating and reducing costs. In short, business owners' action orientation enabled them not just to recover from the earthquakes, but in many cases, thrive. This chapter identifies three major categories: (a) adjusting to the new conditions, (b) learning and, (c) risk management. These three categories make the adaptive coping framework.

**Chapter 8** examines the role of social capital in business recovery. While the previous two chapters presented the cognitive framework and adaptive coping frameworks as key themes in the recovery of the businesses, this chapter introduces an additional factor: how businesses capitalised on existing networks and relationships surrounding them. This chapter highlights the importance of neighbours, local communities and partners. Furthermore, it shows the importance of staying together in the face of adversity. Several dynamics for social capital of SMEs are suggested in this chapter.

**Chapter 9** concludes the thesis and presents a grounded theory of SME recovery. The developed theory is a combination of a cognitive framework (invisible orientation), adaptive coping (action orientation) and social capital (network orientation). It argues that cognitive coping is the most important aspect in recovery and that cognitive coping and social capital define the businesses' action orientation (adaptive coping) which leads to the desired outcome. The cases are divided into three groups: self-sufficient SMEs, socially-based SMEs and surviving SMEs. This classification is based on scores for each aspect of the framework.

## **Chapter 2. Literature Review**

As explained in Chapter 1, the thesis examines SMEs, performance and recovery in a post disaster context. This thesis uses Osterwalder and Pigneur (2010) business canvas model as tool to investigate the recovery of SMEs. This chapter reviews the literature on SMEs, post-disaster recovery and the importance of the business model for businesses. This chapter also identifies gaps in the current literature. The literature chapter is divided into several sections based on the specific bodies of literature: (i) SMEs, (ii) disasters, (iii) SMEs in post disasters situations, (iv) the Business Model Canvas and its relationship to value creation, value generation and profit maximisation. The chapter concludes with a research question.

### **2.1. Section 1: Disasters and SMEs' recovery**

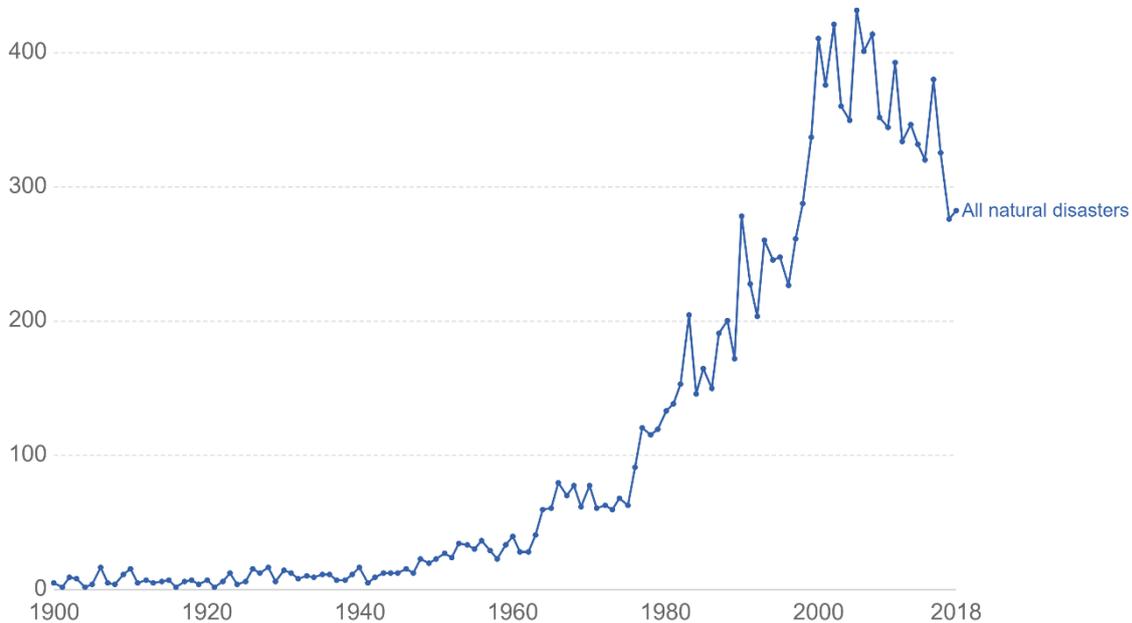
#### **2.1.1. Disasters**

Natural disasters are inevitable, uncontrollable and can have lasting effects. Depending on the type of natural disaster, they can impact a community, city or an entire region. Examples of natural disasters include hurricanes, hailstorms, tsunamis, earthquakes and other types of extreme weather. Disasters are often defined as events which disrupts day-to-day life. The impact of a disaster depends on its severity. For example, the September 2018 earthquake-tsunami disaster in Indonesia brought misfortune for the citizens of Palu. Hundreds lost their lives and the cost of damage to the infrastructure ran into the billions. There are countless examples of destructive events worldwide which have destroyed lives and livelihoods. There are many lessons which can be learned from other events.

Natural disasters are caused by events such as extreme weather conditions, floods, the movement of tectonic plates or volcanic eruptions. In recent years, there has been an increasing number of adverse events caused by extreme weather (Beniston & Stephenson, 2004; Thibault & Brown, 2008) and other disasters. In recent years, there has been an increasing number of adverse events caused by extreme weather (EMDAT, 2019). Figure 2-1 shows total number of recorded natural disaster events from year 1900 to 2018 (EMDAT, 2019).

## Number of recorded natural disaster events, All natural disasters

The number of global reported natural disaster events in any given year. This includes those from drought, floods, extreme weather, extreme temperature, landslides, dry mass movements, wildfires, volcanic activity and earthquakes.



**Figure 2-1: Number of recorded natural disaster events, Source: EMDAT (2019)**

Extreme weather conditions and geophysical catastrophes create challenges throughout the world. According to the United Nations Office for Disaster Risk Reduction (UNDRR) – formally known as United Nations International Strategy for Disaster Reduction (UNISDR), the three most common types of disasters are flooding, storms and earthquakes (CRED & UNISDR, 2015). Figure 2-2 shows number of natural disasters by disaster type from year 1970 to 2018 (EMDAT, 2019).

## Global reported natural disasters by type

The annual reported number of natural disasters, categorised by type. This includes both weather and non-weather related disasters.

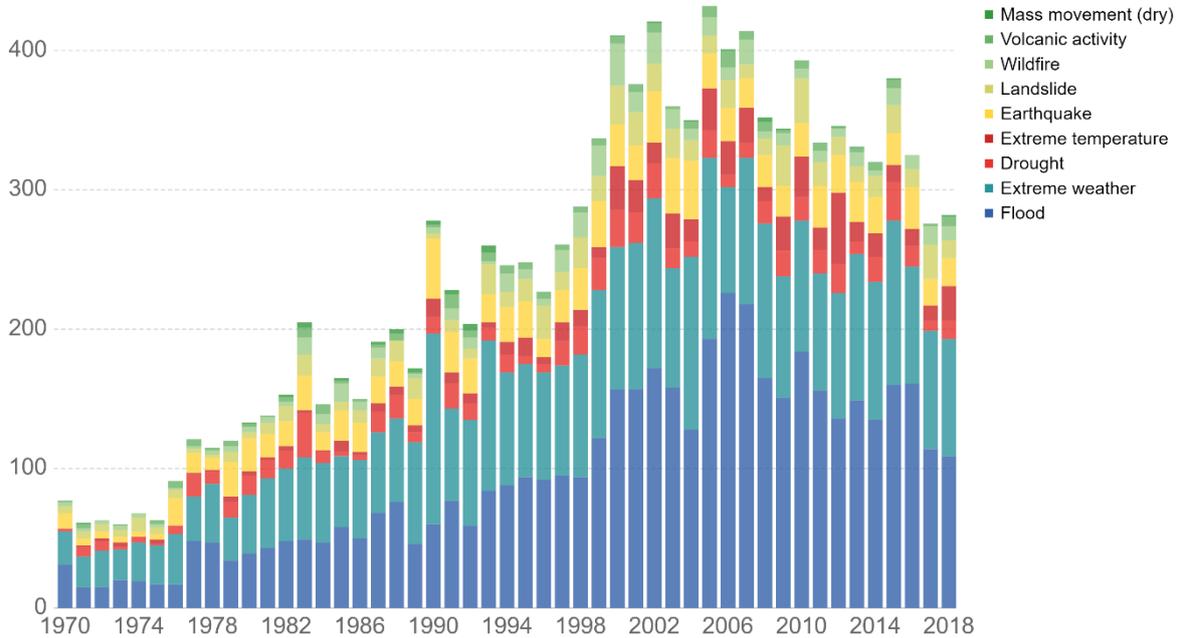


Figure 2-2: Percentage of occurrences of natural disaster by disaster type (1999-2015); Source: CRED and UNISDR (2015)

Worldwide, the economic costs of disasters have increased. It is thus essential for countries, communities and individuals to plan for such an event. As these events are inevitable, there is need to mitigate the risks posed by such events. Natural events around the world have resulted in the death of countless individuals and have caused severe economic damage (Easterling et al., 2000). A natural disaster hit a whole or part of an area, which impacts individuals, communities, businesses and governments alike. Figure 2-3 shows global damage costs from natural disaster from year 1980 to 2018 (EMDAT, 2019).

## Global damage costs from natural disasters, All natural disasters

Total economic cost of damages as a result of global natural disasters in any given year, measured in current US\$. Includes those from drought, floods, extreme weather, extreme temperature, landslides, dry mass movements, wildfires, volcanic activity and earthquakes.

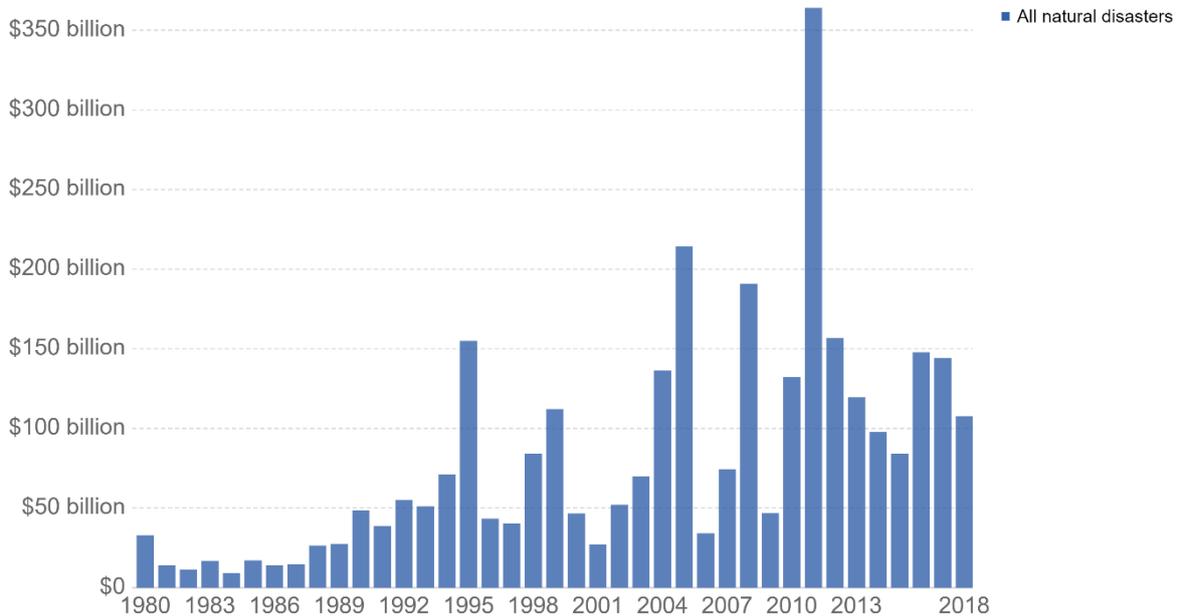


Figure 2-3: Global damage costs from natural disaster; Source: EMDAT (2019)

It is not surprising that there is a well-developed body of literature on disaster proofing infrastructure and the built environment. Similarly, there is a significant body of research which investigates the psychological impact of natural disasters. This research focuses on SMEs in New Zealand and how they were able to cope with the Canterbury earthquakes.

### 2.1.2. Post disaster (impact on businesses)

There are a limited number of studies which examine SMEs' recovery following a disaster (Hatton, 2015; Wedawatta, Ingirige, & Amaratunga, 2009). Scholars argue that a disaster might impact different businesses in different ways. For example, some businesses may have their supplies disrupted, while others' factories might be damaged and thus need to relocate to other premises. Some businesses will have less structural challenges after the disaster as compared to the other businesses. Therefore, it is important to clearly define what a business' vulnerability is. In this research, businesses vulnerability is a risk for businesses being impacted by the disasters and extreme events. Post disaster situations bring many unforeseen challenges for businesses. The recovery process and how a business copes depends on prior preparation, current activities and future business aspirations. Wedawatta and Ingirige (2012) discussed various tactics that businesses can use to mitigate risks and decrease their vulnerability. The level of preparedness defines how well entities are

able to absorb/limit the impact. A disaster may impact on a business' staffing levels as employees deal with personal issues, reduce sales and employee productivity, and render a business' premise inaccessible/unusable (Wedawatta, Ingirige, Jones, & Proverbs, 2011). Because SMEs are typically run by their owners, other than the aforementioned, their personal issues affect their ability to run their businesses. In the case of a disaster, most SMEs rely on their insurance policy to cover losses and damage to their building. Apart from the challenges, Wedawatta et al. (2009) suspect that that natural disasters are increasing in frequency. This has predicted to increase the vulnerability of businesses, especially small businesses. Although they argue that extreme weather events may have a negative impact on small businesses, they believe that they also provide them with opportunities to learn and do things different. Understanding these positive aspects is crucial for SME recovery and for developing strategies for future disasters or adverse events. SMEs must learn how to spot opportunities and maximise their benefits.

#### **2.1.1. SMEs (closure and discontinuance)**

The discontinuance of operations includes either termination of ownership or shutting down the operations (Phillips & Kirchhoff, 1989; Stewart & Gallagher, 1985). Even though business closure may occur in organisations of all sizes, SMEs are more vulnerable to threats and disasters (Ropega, 2011). While there are many reasons for this, the main one is they have small cash reserves (Ropega, 2011). As Hew and Nee (2004) explain, SME assets have "low collateral value." This means it is difficult for SMEs to obtain bank loans. They also lack credit worthiness due to scarce capital, resources, technological capabilities and management/marketing abilities. These elements are considered crucial for running a successful business (Hew & Nee, 2004). Besides internal matters, SMEs may fail due to the "knock-on effect", or events which happen as a result of actions taken by other businesses, suppliers or customers (Ropega, 2011).

#### **2.1.1. Small business recovery**

When a community is hit by a massive disaster, its ability to recover is based on how local institutions and businesses are able to recover and ultimately thrive. This is because the community is dependent on the jobs, services and local facilities (Cochrane, 1995; Hatton, Seville, & Vargo, 2012). Disasters may impact a business' day-to-day activities and/create additional challenges for the business owner (Tierney, 2007a). The challenges may include business interruptions due to internal and/or external causes, which may include having to close the business for a specific period of time, the loss of customers due to a change of location and decreased profits, disruptions related to product delivery

processes and various other operational issues. These challenges were seen as significant predictors of poor recovery processes and their outcomes for small businesses (Tierney, 2007a).

Many researchers have examined the ways in which individuals, communities and local/central agencies come together during the post-disaster recovery and rebuilding process (Albala-Bertrand, 1993; Burton & Hicks, 2005; Cochrane, 1995). For example, Corey and Deitch (2011) discuss the recovery processes following Hurricane Katrina in New Orleans. More specifically, they provide details of the factors which affected the recovery processes of various organisations. Other studies have focused on the factors which influence business preparedness and their recovery capabilities, such as the business' age/ size/type and whether they rent or own their business premises (Kroll, Landis, Shen, & Stryker, 1991; Tierney, 2007a; Webb, Tierney, & Dahlhamer, 2002). Prior studies have noted the importance of human, financial and social capital business recovery (Asgary, Anjum, & Azimi, 2012). Significantly, there is limited literature on the wider recovery processes for small businesses.

Review of prior literature reveals enablers and hindrances. Table 2-1 shows the identified enablers and barriers. I have grouped them according to whether they are seen as enablers or hinderances and will discuss each one in detail.

<b>Authors</b>	<b>Enablers, barriers and outcomes for businesses</b>
Cesaroni, Sentuti, and Cubico (2020)	Enablers: Financial resources, wealth Outcomes: Effective decision making and increased profit margins
Dahlhamer and Tierney (1998)	Enabler: Size of small businesses Barriers: Physical impacts of a disaster, ceased business operations, severe ecological and community impacts, higher debts Outcomes: Advantageous in recovery process
Graham (2007)	Enabler: Realistic distribution of financial aid and support, strategic support Outcomes: Effective long-term planning, relocation assessment
Marshall and Schrank (2014)	Enabler: Context, Support from families and community Outcome: Regaining prior business
Runyan (2006)	Enabler: External aid Barriers: Lack of proper planning, unable to anticipate damages, limited cash flow/capital/resources
Asgary, Anjum, and Azimi (2012)	Enablers: Personal savings, Financial conditions, support from Friends and family members, Government or non-government support Barriers: Severe damages to the business facility
Dahlhamer and Tierney (1996)	Barriers: Small business size, poor financial conditions, damaged business location and the intensity of the disaster for the whole community Enabler: Strong financial conditions Outcome: Effective recovery

<b>Authors</b>	<b>Enablers, barriers and outcomes for businesses</b>
Chowdhury, Prayag, Orchiston, and Spector (2019)	Enabler: Relational social capital Outcome: Adaptive resilience, increased business performance
Tierney (2007a)	Barriers: Challenging environment for the business owners, business interruptions (internal or external causes), Outcomes: Closing operations for a time period, loss of customers and profits, disruptions with product flow
Mead and Liedholm (1998)	Barrier: Weak governance system (external and specific to country)
Webb et al. (2002)	Enabler: Size of small business Outcomes: Fast recovery from disaster, adapt quickly
Burton and Hicks (2005)	Enabler: Support from communities or local/central agencies Outcome: Quick recovery and response after a disaster
Corey and Deitch (2011)	Enablers: Age, size, type of businesses Outcomes: Effective recovery process
Kroll, Landis, Shen, & Stryker, 1991	Enablers: Type of businesses rental property vs. owning the premises

**Table 2-1: Enablers, barriers and outcome of SMEs' recovery**

Some factors can be both enablers and barriers (size is both an enabler and a barrier). Previous literature has highlighted size as a crucial factor in business recovery. Small businesses are believed to be particularly vulnerable in times of crisis (Alesch, Holly, Mittler, & Nagy, 2001). Kroll et al. (1991) have found that small businesses suffer bigger losses, compared to big organisations. In contrast, Webb et al. (2002) contend that, after a disaster, SME are able to adapt quicker than larger organisations due to their small size. Dahlhamer and Tierney (1998) also suggest that small size is an advantage in the business recovery process. Marshall and Schrank (2014) argue that recovery is an iterative process; in short, there are some achievements and downside while businesses are going through the recovery process. Bowden (2011) also notes that business resources are important and help businesses to quickly relocate to different premises if needed after the earthquakes. While a large sized organisation may find it difficult to physically move their business to another premise after a disaster, smaller businesses usually have fewer physical resources (desks, chairs, or stock) and staff members and thus may have an advantage in this regard. The context in which the businesses are operating impact on the recovery process.

Some authors such as Tierney (2007a) and Dahlhamer and Tierney (1996) contend that fledging financial performance is a barrier for business recovery. Businesses in their research who took measures to avoid potential losses due to disasters were financially strong businesses. In short, strong financial position before any disaster supports business recovery. Cesaroni, Sentuti, and Cubico (2020)'s paper has mentioned the financial wealth of family business and how it impacts the decision making related to recovery from a disaster. Their study argues that socio-emotional wealth associated

with businesses has an impact on decision making processes in the recovery process and whether the business is profitable.

Prior studies have identified a lack of access to capital and resources as key barriers to successful business recovery. Business recovery process also varies depending on the resources (physical or financial), the owner own abilities, approaches and planning. It was found that having a disaster plan in place before such an event is beneficial, but notes that many small businesses do not have one Tierney (2007a). Many small businesses do not have disaster plans in place. They may also have limited cash reserves and therefore may struggle if these dry up in the post-disaster environment. Businesses with limited financial resources are thus forced to rely on external aid and assistance (Runyan, 2006) which can take time to process. Asgary et al. (2012) have argued that small business owners are often forced to use their personal savings (enabler) during times of crisis which can create additional financial stress. The personal saving utilisation also depend on how severe the damage is; the greater the damage to the business facility, the more money it will take to recover. Support from the friends, family and communities was another enabler in the recovery process (Marshall & Schrank, 2014). Disaster risk management (DRM) depends on how governance works for the whole community. Policy making and other tools are critical for enabling communities to work together in times of crisis. DRM relies on stakeholders working together (Feldmann-Jensen, Jensen, & Smith, 2019). Chowdhury, Prayag, Orchiston, and Spector (2019) have identified three types of social capital (structural, relational and cognitive) in tourism businesses. Their study shows that social capital and firm performance after a disaster are linked. The relationships are resources which the businesses create over time and can be relied upon in times of crisis. Relational capital, as they have identified it, is associated with firm's adaptive resilience: in turn, this impacts on business performance. Additionally, Brown, Rovins, Feldmann-Jensen, Orchiston, and Johnston (2019) have suggested that the businesses' resiliency and recoveries, especially tourist organisations, can be improved by focusing on budgeting for DRM activities, effective staffing and increasing the flow of information between staff and visitors. Brown, Rovins, Orchiston, Feldmann-Jensen, and Johnston (2019) have identified the importance of DRM activities for tourist organisations. They demonstrate the importance of business networks, assessing one's financial viability to cope disaster related impacts, standard compliance and practices and safety culture are significant factors which ensure effective DRM. They also note the importance of involving staff in DRM planning and using a multi-hazard approach when designing DRM activities.

A major barrier to business recovery is the weak governance systems and poor distribution of aid, especially in developing countries (Mead & Liedholm, 1998). External aid was not found to be significant by Dahlhamer and Tierney (1998). Whereas other research in disaster prone areas (in developing countries), an opposite phenomenon is being observed. Graham (2007) indicates that

business recovery is easier when there is good distribution of aid; it helps long-term planning and relocation assessments. Businesses could be given intellectual support by focusing on business initiatives and activities to recover. Additionally, the aid also needs to be distributed fairly with defined disbursement schedules. Government and non-government support was also helpful for the small businesses who did not have enough financial capability to recover (Asgary et al., 2012). Considering the post-earthquake conditions in New Zealand, financial assistance seems an enabler for the companies needing support. Dahlhamer and Tierney (1996) stated that damaged business location and the intensity of the disaster for the whole community are the barriers in the recovery of small businesses. They may take a longer time to recover when these aspects are present. In another study, they also indicate that the level of damage in surrounding area may impact the speed of recovery (Dahlhamer & Tierney, 1998). This is what has been experienced by Christchurch businesses, because the city experienced massive city-wide damages, especially in CBD area.

Most business models do not contain provisions for disastrous events. They only include information about what to do in 'normal' circumstance. According to Ingirige et al. (2008), SMEs are the least prepared business for an uncertain event, hence, the most vulnerable in times of a crisis. SMEs often have insufficient resources. Elliott, Swartz, and Herbane (2010) note that best practices are typically associated with large organisations that have more resources. According to Vossen (1998), resource constraints include a shortage of finance and assets, or technological (information and equipment) and human resource limitations. SMEs are vulnerable to extreme events because they have insufficient resources to plan for future, respond to a crisis and deal with post crisis challenges (Ingirige et al., 2008). SMEs face many challenges during their normal business operations but are even more vulnerable during times of crisis. In order to be competitive and sustainable SMEs must plan for unexpected events in the initial years of business.

The importance of providing realistic, actionable information for individuals affected by the disaster has been emphasised by Brown, Rovins, Feldmann-Jensen, and Orchiston (2017). The provision of clear and relevant information may limit the severity of the disaster and help speed recovery efforts. Jensen, Feldmann-Jensen, Johnston, and Brown (2015) have indicated the need to integrate local and global disaster recovery and management perspectives. They believe that local disaster management can be improved without any significant financial investment if the information from higher education is trickled down to the implementation effectively.

To summarise, while there are multiple studies on the recovery of large organisations, only a few examine SME recovery. As they are the backbone of the New Zealand's economy, there needs to be

more research in this area. There are no studies which examine SMEs using a business model perspective.

## 2.2. Section 2: SMEs and business models

The next section focuses on SMEs and the business model. The business model was used as tool to collect data and gain insight in the interviewed businesses. This section lays the foundation for understanding the significance of SMEs and business model.

### 2.2.1. Definition of SMEs

It is impossible to define SMEs because the term covers a diverse range of businesses (Carter & Jones-Evans, 2006). SMEs are usually defined by their size, which is measured by number of employees. A firm's size varies depending on its industry/place in the market. For example, a firm may be considered small in a market where there are a lot of competitors and it has a small market share. However, the same company may be considered a large firm in a market with less competition or where the firms are generally smaller in size. SMEs are sometimes classified in terms of their annual turnover. For example, in the UK, the Department for Business, Enterprise and Regulatory Reform, divides businesses based on the number of employees: micro firms have less than 9 staff members, small firms have 49 and below, medium sized firms have between 50 and 249 employees and large firms have more than 250 employees.

In New Zealand, the scenario is different due to its much smaller population. Firms are divided into different groups, based on the number of employees (see Table 2-2). Most New Zealand companies fall into the small and medium enterprise category (97%). Only a fraction (3%) are medium and large firms (MBIE, 2017b).

Employees size	No. of firms	Percentage	Classification
0	326,000	68.94%	Zero
1-5	97,400	20.60%	Micro
6-19	35,900	7.59%	Small
20-49	8,800	1.86%	Small-medium
50-99	2,640	0.56%	Medium
100+	2120	0.45%	Large
Total firms	<b>472,860</b>		

Table 2-2: Classification of firms in New Zealand; Source: MBIE (2017b)

In short, SMEs are a major part of the New Zealand economy. They contribute to about 30% of the New Zealand GDP (MBIE, 2017a).

### **2.2.2. SMEs and business models**

SME success is dependent on a variety of factors. Some of these factors are assets, capital, human resources and higher management experience. Infrastructure and location play a critical role in SME success. Infrastructure includes access to electricity/water, transportation and telecommunication links. SME are also heavily dependent on their suppliers, buyers and human resources. Due to their dependency on other parties, we cannot focus on business aspects alone. In short, it is necessary to analyse the collective impact of all these factors. A business model captures all these critical aspects. This concept is discussed in greater detail below. A business model explains how organisation makes money and outlines all aspects of the business. Most SMEs focus on the end result but ignore the means by which they can generate profit.

Small firms see opportunities in a different way than large firms (Stevenson & Gumpert, 1985). While large organisations are known for their bureaucratic management style and access to resources, SMEs are typically classified by an entrepreneurial form of management, with less access to resources and skills. According to Ayyagari, Demirgüç-Kunt, and Beck (2003), SMEs tend to have more informal structures, limited management and skilled human resources, and less access to capital. However, there are some advantages: SMEs can better respond to opportunities due to less complex management structures. To grasp an opportunity, SMEs managers must think strategically about how they want to use their resources.

### **2.2.3. Business models**

Although, the term business model is used extensively by practitioners and scholars, there is no single consistent definition of a business model (DaSilva & Trkman, 2013; George & Bock, 2011; Shafer, Smith, & Linder, 2005). Literature which tries to define it often does so in relation to a particular context, such as internet-based business models (Amit & Zott, 2001) or business models as activity systems (Afuah, 2004).

A business model must include information about what the business hopes to achieve, the core elements of the business, and how will it provide value to its customers. Attending to all these elements will ensure a strong business model. These elements are crucial, especially for SMEs.

There is no consensus about what constitutes a business model. Definitions vary from parsimonious method of doing business to detailed frameworks, like Osterwalder and Pigneur (2010)'s nine building blocks. Most business model research focuses on defining it, with many outlining different typologies (Dubosson-Torbay, Osterwalder, & Pigneur, 2002; Magretta, 2002; Shafer et al., 2005; Tapscott, Lowy,

& Ticoll, 2000; Timmers, 1999; Weill & Vitale, 2001). Only a few studies examine the link between business models and company performance (see for example, Amit and Zott (2001), Chesbrough and Rosenbloom (2002) and Malone et al. (2006). These scholars have examined why the business model is essential for success.

There are three common factors to business model definitions: value creation, capturing value and profit generation (Casadesus-Masanell & Ricart, 2010; Magretta, 2002; Shafer et al., 2005). Every firm must have a well-defined business model. Regardless of whether it is a start-up or an established organisation, the business model is equally important. At its core, a business model is a story. It provides information about how a firm works. It answers specific questions about the customers and what value they are seeking. Most importantly, it also provides a pathway to earn money. Magretta (2002) states that a business model has three elements: value, customers and profit (see Figure 2-4).



**Figure 2-4: Magretta's business model definition, Source: Magretta (2002)**

Every decision or strategy adds valuable feedback towards developing a business model – defining how the whole business will work as a system. Profits are major indicators of business model performance because they show if the business model is implemented properly. In the case that a firm's target profits are not met, then the business model revision becomes inevitable.

The term business model highlights a system level approach in which a holistic picture is portrayed about overall working of a firm. It also emphasises how to create value for customers as well as capturing value (Zott, Amit, & Massa, 2011).

While business models have been in existence for many years (Teece, 2010), the term gained increasing popular in the mid-90s with the rise of the internet and modern technology (Amit & Zott, 2001). It has since become the most popular term the business world. Increased interest in capturing new markets and dependence on technology have led companies to reconsider their business models.

Different authors have coined various one-word definitions for the business model. Table 2-3 shows some of these terms:

<b>One-word definitions/Terms</b>	<b>Authors</b>
Statement	Stewart and Zhao (2000)
Description	Applegate (2001); Weill and Vitale (2001)
Representation	Morris, Schindehutte, and Allen (2005); Shafer et al. (2005)
Architecture	Dubosson-Torbay et al. (2002); Timmers (1999)
Financial architecture	Chesbrough and Rosenbloom (2002)
Framework	Afuah (2004)
Set	Seelos and Mair (2007)
Content	Zott and Amit (2010)
Conceptual tool or model	George and Bock (2011); Dubosson-Torbay et al. (2002); Osterwalder and Pigneur (2010); Afuah and Tucci (2003); Teece (2010)
Structural template	Amit and Zott (2001)
Method	Afuah and Tucci (2000)
Pattern	Brousseau and Penard (2007)
Logic	Casadesus-Masanell and Ricart (2010); Teece (2010)
Key components (of a business)	Hedman and Kalling (2003)
Story (About working of a business)	Magretta (2002)

**Table 2-3: One-word definitions of business model**

Many authors study business models but do not explain the concept (Zott et al., 2011). Zott et al. (2011) reviewed 103 publications. They found that only 44% of these explained or defined the concept. While 37 % did not define the term, the remainder referred to the work of other authors. The existing definitions overlap, meaning that there are multiple interpretations of the term.

Amit and Zott (2001) define business model as the content, structure and governance of a transaction specifically designed to capture future opportunities and create value. Afuah and Tucci (2003) describe the term as a system which combines components, defines the links between these components and incorporates various dynamics. Afuah (2004) also describes the business model as an activity system and defines it as a set of activities executed by a firm; in particular, how and when the activities are carried out. The term explains various functions such as marketing, training and development, human resource management, planning and manufacturing (Johnson, Christensen, & Kagermann, 2008). According to Mitchell and Coles (2003) a business model explains how to serve customers with its market offering. It explains how a business delivers value (Eisenmann, 2006). Similarly, the business model is described as a framework which is used to generate value by transforming raw materials into finished goods which are delivered to customers (Chesbrough & Rosenbloom, 2002). Zott and Amit (2010) state that the business model outlines the way in which organisations provide value to their customers for a profit. Achtenhagen, Melin, and Naldi (2013) and Markides and Sosa (2013), claim that the business model is a source of competitive advantage. The advantage gained by business model is also supported by its functionalities, which are discussed by Chesbrough (2007). Casadesus-

Masanell and Ricart (2010) and Teece (2010) have also demonstrated the business model's contribution through its ability to create value for firms and customers.

Business models outline a set of activities directed towards a specific goal. They involve human and capital assets. It also outlines how a firm works with its partners (distributors, suppliers or customers). Thus, the business model can be linked to activity systems as its boundaries extend beyond the firm to external partners.

Despite this, the business model remains a firm-centric phenomenon because it is the firm that will define its boundaries, decide how it will create a value for its business partners and capture its share of the market (Zott & Amit, 2010). According to Amit and Zott (2001), it is not only organisational phenomenon for focal firm but its boundaries are expanded to partner firms (that is, buyers, suppliers, and distributors). Amit and Zott (2001) define the business model as an activity system that allows the firm, along with its partners, to create and capture value. Amit and Zott (2001) show that business model exists to explore a new business avenue by creating value for all stakeholders. They imply that the function of business model is to fulfil customers' demands, capture market share and bring positive cash flows for the firm and its business partners.

The business model is an important construct even though managers cannot define it, or they find it difficult to clearly explain their business model. Defining a firm's business model is vital for new firms and even more challenging for old businesses to refine and redesign it to adapt to future opportunities (George & Bock, 2011). Practitioners assume that business model is closely related to organisation performance and growth. It is also relevant to capturing market opportunities. According to practitioners, the business model is an organisation-level construct. Moreover, it consists of subsystems, routes and processes to achieve a firm's purpose. It is neither the purpose nor the reason for existence of a firm. a business model can exist regardless of whether it has a business owner has plan or not. For example, for someone in consultancy may have no need to have a business plan mainly because the limited scope of operations and employee size of the business. However, every business can be analysed through business model canvas. A business model is combination of various organisational activities.

With the advent of new technologies, modern information systems, the rapid growth of internet usage and decreased communication costs, it is now possible to create and capture value in novel ways (Zott et al., 2011). These changes have transformed the traditional methods of exchange. It also means that there are many possible (and at times, unconventional ways) of 'doing' business, and often at lower costs. Boundary-spanning organisational forms are emerging (Daft & Lewin, 1993; Dunbar & Starbuck,

2006). Certainly, developments in technology fundamentally shifted to better organise processes/interactions not only within firm but also across the linkages of the firm with outside partners (Mendelson, 2000). Technology means that businesses can link with each other at the industry level in a way that was not possible even ten years or twenty years ago.

Accordingly, the business model is combination of value proposition, revenue/finance model and firm's network (Zott et al., 2011). Previous studies have tended to examine these three aspects separately. The previous literature hasn't been able to precisely describe the relationship between various elements of the business model (such as identifying key customers, setting customer base and pricing) and therefore it is hard to precisely describe what a business model is. Table 2-4 provides an overview of the various studies and outlines the major focus (management style) and importance (to different aspects, partners).

<b>Year</b>	<b>Author(s)</b>	<b>Article Title</b>	<b>Focus</b>	<b>Importance</b>
2010	Zott and Amit (2010)	Business model design: an activity system perspective	System perspective and supply chain members involvement (network approach)	Functions and network
2010	Demil and Lecocq (2010)	Business model evolution: in search of dynamic consistency	Functions, resource utilisation and sustainability	Functions, resources and growth
2013	DaSilva and Trkman (2013)	Business Model: What It Is and What It Is Not	Resource management, transaction, value creation,	Recourses, value, customer and company
2010	Teece (2010)	Business Models, Business Strategy, and Innovation	Value creation and profit maximisation	Customers and profit
2004	Afuah (2004)	Business models: A strategic management approach	Activities, function, value creation, company focused	Resources, customer value, firm
2010	Gambardella and McGahan (2010)	Business-model innovation: general purpose technologies and their implications for industry architecture	Idea generation and cost management	Innovation and cost
2010	Casadesus-Masanell and Ricart (2010)	From strategy to business models and onto tactics	Organisational logic, value creation, network approach	Customers, partners
2010	Itami and Nishino (2010)	Killing two birds with one stone: profit for now and learning for the future	Profit maximisation, value capturing and learning mechanism	Profit, network and innovation

Year	Author(s)	Article Title	Focus	Importance
2005	Osterwalder, Pigneur, and Tucci (2005)	Clarifying Business Models: Origins, Present, and Future of the Concept	Relationships of different factors, representation of value to customers, financial stability	Value creation, functions and profits
2014	Tongur and Engwall (2014)	The business model dilemma of technology shifts	Value proposition	Value creation, customers
2010	Baden-Fuller and Morgan (2010)	Business Models as Models	Process/system approach, defining a purpose	Functions, objectives
2004	Osterwalder (2004)	The business model ontology A proposition in a design science approach	Transaction focused, profit generation	Sales, profit
2005	Shafer et al. (2005)	The power of business models	Creating and capturing value, network approach	Value, network

**Table 2-4: Explanation of business model and its scope**

Although there has been much disagreement about definition, there are some general points of agreement. For example, many authors have researched on e-business models. Many of the e-business activities need to be completed using the internet or electronically as Bowden et al. (2001) suggested. Weill and Vitale (2001) present a model of schematics as a tool for e-business frameworks – for designing and analysing business models. They identify three categories: participants, relationships and flows. Participants include the focal company, its partners and customers. Relationship refers to the interactions and collaborations among staff members and the company's partners. Flows refers to revenue, information, the company's costs or delivering processes for products/services. Tapscott et al. (2000) value map is similar to this. They divide the business model into two parts: key participants (suppliers, allies, customers) and value exchanges (tangible or intangible transactions such as knowledge sharing or paying debts). These two definitions are used in this study and are explained further in the chapter.

#### **2.2.4. Business model, business plan and business strategy**

A business model is different from a business plan. It is also different from a business strategy. A business strategy outlines how a business will compete with other businesses. The strategy addresses two main questions; what industry is the business involved in and how a company intends to compete against other businesses (Hofer, 1975). According to Casadesus-Masanell and Ricart (2010), a firm's strategy is a devoted set of tasks which its management designs. It is a choice of activities and procedures through which a firm competes in the market (Porter, 1996).

A business plan is often associated with entrepreneurship and new ventures (Gruber, Kim, & Brinckmann, 2015). Its primary purpose is to develop goals and strategies for achieving them. Business managers see it as a necessary tool for gaining loans and investments (Manigart et al., 2002). The business plan starts outlines opportunities in the market (that is, untapped market or an opening for new product), and estimated costs for a new business. Business plans range from a basic outline of the business to a detailed feasibility report (Manigart et al., 2002). In contrast, a business model, outlines how an organisation makes money. An organisation may have a well-defined its business plan, but it may not have a strong business model.

### **2.2.5. Analysing business models**

There are three major elements in a business model: value creation, value capturing and profit/revenue maximisation. The following section defines these three aspects in detail.

#### **2.2.5.1. Value creation**

How can a company generate value? This is a question that every successful firm tries to answer precisely. It directly relates to its product/service. Before answering this question, it is essential to define 'value'. Value is the set of characteristics which customers want or seek in a firm's product offering. It may be luxury, lower prices, convenience or so other features related to the product or service. Customers may even define the value. In some cases, such as Apple, the company sets the value for its customers because it goes beyond the imagination of customers' value seeking. Therefore, value can also be defined as meeting/exceeding customers' expectations. An optimal combination for a customer can be 'value for money' which is a comparison of cost/desired quality (benefit) (Connaughton & Green, 1996). Value combines cost and satisfaction (Neap & Celik, 1999). It depends on how buyers or sellers (from an organisation's perspective) defines the value system. This shows how much customers are willing to pay for subjective elements (such as prestige and appearance). In short, value is very subjective term. Neap and Celik (1999) believe that value can only be assessed if the subjective elements are converted to a currency value

A company can create value for customers using various strategies. They must decide among choices of offering combination of products and services, their position in a supply chain, and what channels to use for delivering their finished goods to end users. Value creation and its relation to business model are supported by different authors (Afuah & Tucci, 2000; Chesbrough & Rosenbloom, 2002).

### **2.2.5.2. Value capturing**

Value capturing refers to the fulfilment of exchange value. It can be seen in the types of bargaining relationships between buyer and supplier. For example, if there are viable substitutes available with insignificant switching costs (Bowman & Ambrosini, 2000), then the buyer will have greater bargaining power. This implies that for such offerings, a firm may not be able to capture value if their price is too high or supplier's price is too high. The perceived bargaining power between buyer and supplier is one way to define exchange value. Bargaining power is psychological or subjective. Value capturing also depends on a firm's position, particularly in the minds of their target customers and in the market more generally. For example, Apple Inc. has gained a reputation for being the most sophisticated electronic gadgets provider. Value creation involves identifying certain factors in the product offering which make it unique. By identifying points of difference, a firm will be able to achieve a competitive advantage. Hence, it will capture value from its customers.

### **2.2.5.3. Profit maximisation/generation**

Profit refers to surplus money. It can be calculated by deducting a firm's costs/expense from the revenue generated. But it is not as simple it seems. Companies struggle to make greater profits. Value creation and value capturing work in tandem to maximise profits. Profits are realised through exchanges between the firm and its customers (revenue) as opposed to the exchanges between the firm and its resource suppliers (costs) (Bowman & Ambrosini, 2000). If the amount generated by customers is more than the costs the firm incurs by acquiring resources, then they have generated profit. According to Shafer et al. (2005) the revenue model is an essential component of a business model.

The elements of business model work collectively, but they can be broken down into three categories: value capturing, value creation and profit maximisation. For this purpose, customer segments and customer relationships are associated with capturing value. There is less consensus on whether channels and value proposition should be place in capturing value or value creation. Key partners, activities and resources relate to value creation. Revenue streams and cost structure relate to profitability.

The business model components were arranged on a spectrum, with creating and capturing value placed at the two ends of the diagram. Profit maximisation covers the entire spectrum (see Figure 2-5).

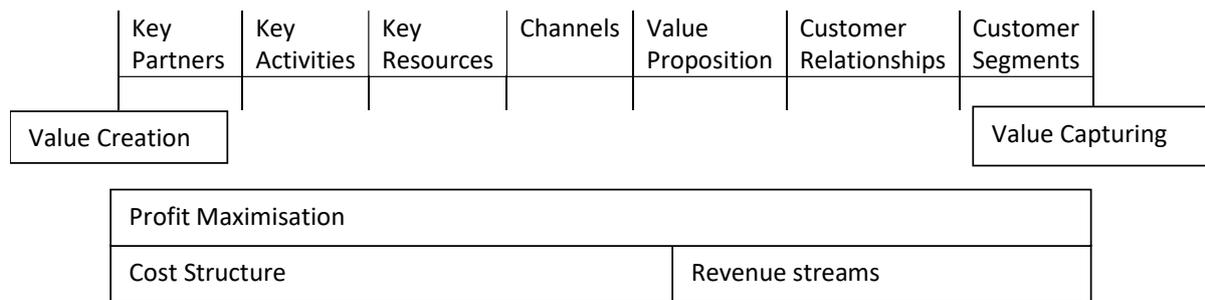


Figure 2-5: Business model components – spectrum of value creation and value capturing

### 2.3. Research question

This research focuses on SMEs in Christchurch, New Zealand. It examines changes SMEs, using the business model as a tool, following the Canterbury earthquakes of 2010 and 2011. It analyses the businesses’ experiences using grounded theory methods (coding and memoing). The research explores the factors which affected the recovery trajectory of SMEs. Considering the fact that the business environment the changed drastically after the Canterbury earthquake, the research focuses on internal business changes. It also examines how the external environment, that impacted the businesses, changed over time. Specifically, the study aims to answer the following question:

**Research Question:** How do small businesses evolve and recover following a major natural disaster?

In this research, the data is collected from SMEs which were in business during the crisis and which are still recovering. This research collected data from a variety of businesses: 1) those which merely adapted (reached a minimum threshold of recovery), 2) adapted well (flourished by taking advantage of opportunities in the post-disaster crisis and resulting environment) and 3) remained unchanged (those did not change much of their previous business practices. All these scenarios provide insights into the factors which facilitate the recovery of SMEs.

This literature review was conducted prior to data collection in order to gain a better understanding of business models, the functionality of SMEs, recovery after a disaster and their importance to society. Due to the iterative and abductive nature of grounded theory methods, emergent themes were assessed against the prior literature after finalising the recovery theory. Therefore, emergent themes literature is discussed in the theory chapter. Chapter 3 outlines the research methodology adopted for this thesis.

## Chapter 3. Research Philosophy and Methodology

### 3.1. Introduction

The aim of this research initially was to investigate how SMEs adapt or change their business models in the wake of a natural disaster. This research was conducted in the context of the post-earthquake environment in the greater Canterbury region. Given the nature of the context and the need for in-depth study, a qualitative research design was deemed appropriate (Silverman, 2013). The specificity of the scenario influenced the research philosophy and design. The research question is ‘how do small businesses evolve and recover following a major natural disaster?’.

The research question defined the overall methodological approach. The research philosophy and design are based on Bell (2005)’s broader question i.e. what the researcher needs to know about the subject. Satisfactorily answering this question requires a transdisciplinary approach (Carew & Wickson, 2010; Wickson, Carew, & Russell, 2006). The understanding of different fields such as management, marketing and psychology have been adopted to grasp the dynamics of SMEs dealing with crises.

There is limited literature on SME’s business models in the post-disaster context. This limitation means it is appropriate to use the primarily inductive approach. This study developed theory and verified it in order to produce a mid-range theory. This thesis explores SMEs’ experiences of recovery through the lens of grounded theory. Ultimately, the aim is to devise a theory which is theoretically relevant and provides practical advice around disaster management and recovery trajectory for small businesses.

This section discusses the research’s philosophical approaches and methodological choices. This chapter also explains the need for qualitative research on this particular topic. More specifically, it explains ontological and epistemological considerations for the research. It describes the data collection methods and data interpretation techniques. Finally, the chapter explains how the data is synthesised. Figure 3-1 shows the overall research process for this study.

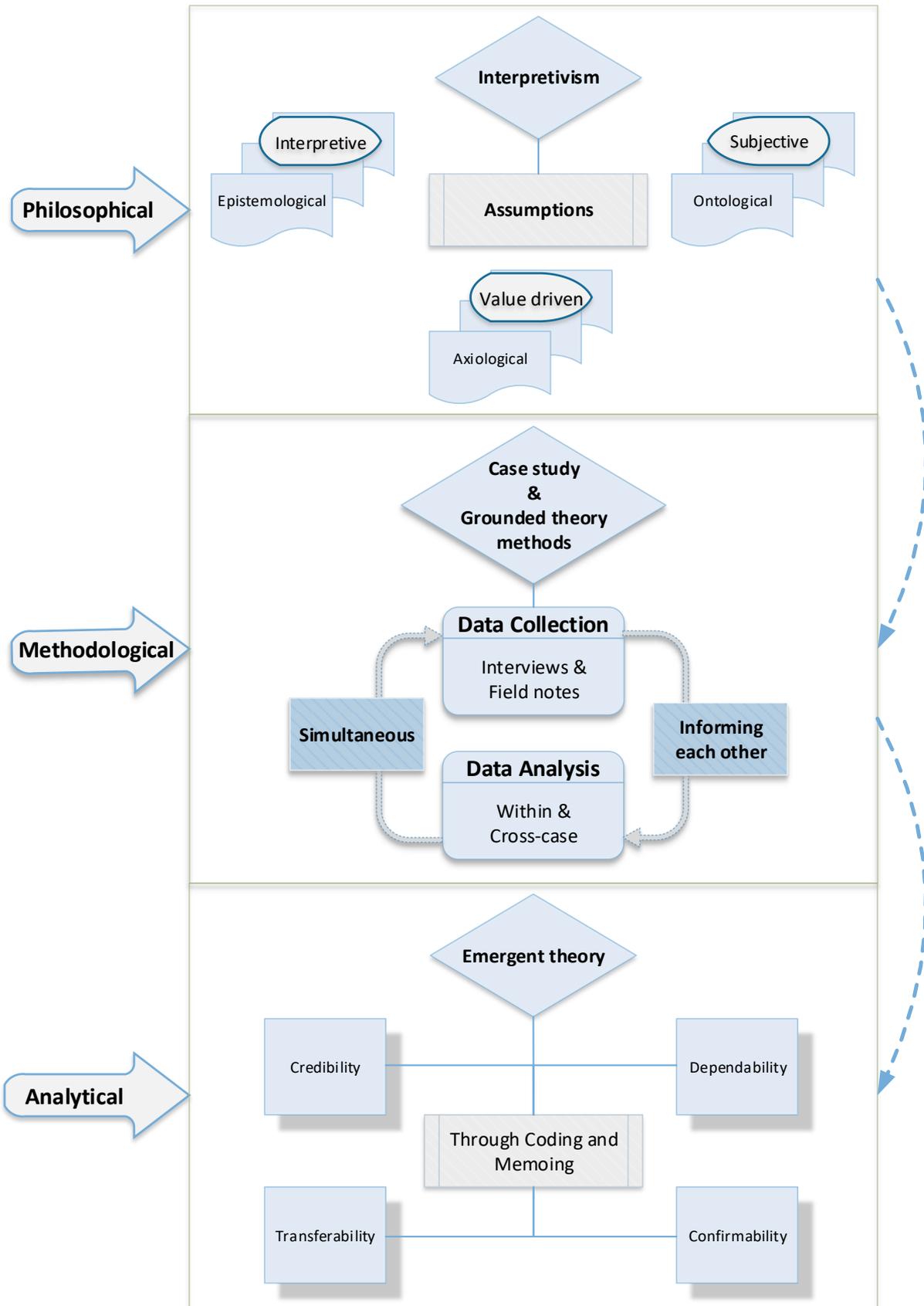


Figure 3-1: Overall research process

### **3.2. Overview – the research process**

This section summarises the study's research process. As described in the Chapter 2, despite significant emphasis on SMEs in the business literature, there is little research on their business models and more specifically, in terms of their recovery in the context of a disaster. This study explores the underlying factors or characteristics which enabled SMEs to recover from the Christchurch earthquakes. Additionally, it aims to provide an emergent, contextually rich analysis which will enable scholars to understand the dynamics of small businesses in the greater Canterbury region.

Methodological choices are determined by a study's research question(s). Qualitative research can be used to investigate unexplored phenomenon like the one in this thesis (Saunders, 2011). How and why questions often call for exploratory research (Yin, 2017). This study used an exploratory research approach.

This research assumes that there are narratives and experiences which define phenomena. The qualitative nature of this study makes it almost impossible to separate the researcher and research setting and philosophies. Therefore, this research is value bound. Every attempt has been made to limit bias; however, due to the subjective nature of the study, there is a possibility of personal bias in the research approach and data analysis. Figure 3-2 shows the general picture of philosophical choices, paradigms and approaches. The bold text in this figure applies to this research. The first part of the research philosophy is encapsulated in the outer most layer of the figure. This research draws on interpretivism, which believes that human beings are unique and create meaning about their own surroundings (Walsham, 2006). An abductive approach to data collection and analysis has been adopted to create, modify and verify the SME framework which will be able to help them prepare for and survive/thrive in a post-disaster context. As mentioned earlier, this is a qualitative study which adopts a case study approach (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Yin, 2017) with grounded theory methods (Charmaz, 2014). Some qualitative researchers argue that case study and grounded theory approaches are fundamentally different in how they approach the research questions. However, this research uses both a holistic (single unit of analysis) and multiple case study design. Each case is analysed using grounded theory methods such as first cycle coding, second cycle coding memoing, and the comparative method for analysis. This is cross-sectional research which captures respondents' views as a snapshot of their experiences. These philosophies and approaches are detailed in Sections 3.3, 3.4, 3.5, 3.6, 3.7 and 3.8.

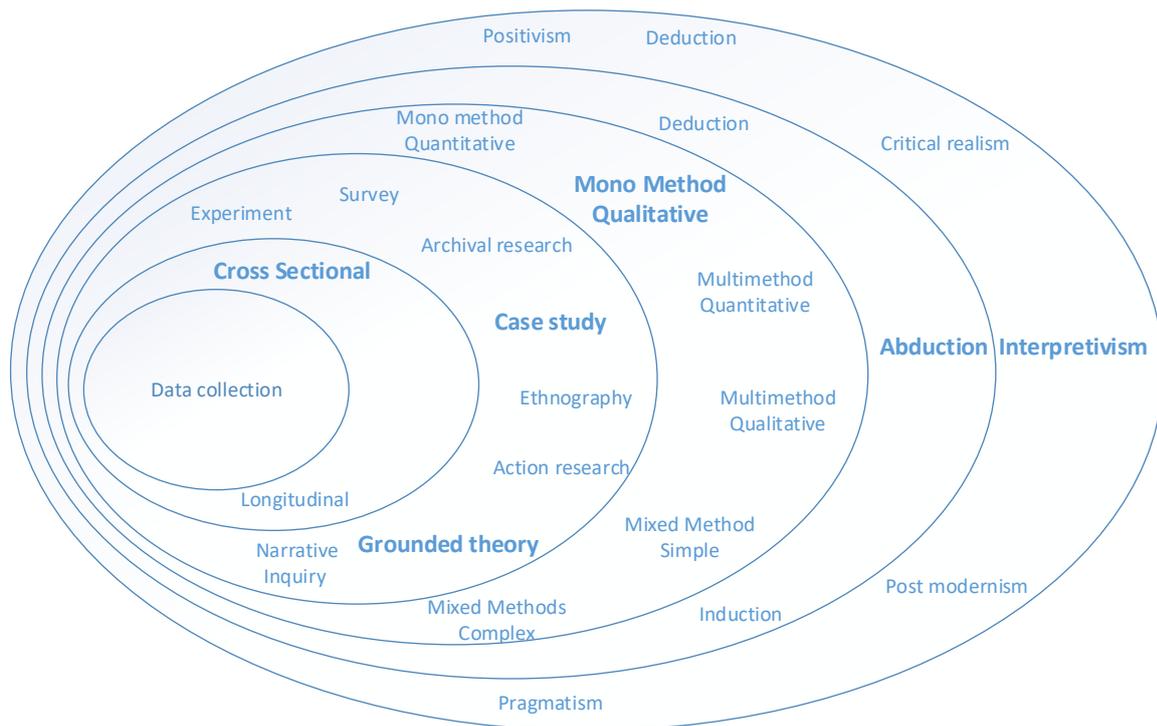


Figure 3-2: Research philosophy and approach adopted from Saunders (2011)

### 3.3. Research assumptions

Burrell and Morgan (1979) point out that in every stage of research, scholars make numerous assumptions, whether consciously or unconsciously. These assumptions are related to human knowledge, acquiring data, interpreting it and the ways researchers' thinking influences the research. These are epistemological, ontological and axiological assumptions which are vital for understanding the research problem, how to conduct the specific research and interpretations of the data (Crotty, 1998).

Ontological, epistemological and axiological assumptions are basis of the research philosophies and adopted methodology. These paradigms are discussed in this section. The aim is to justify the scholar's methodological choices.

The development of knowledge depends upon a set of beliefs and assumptions (Saunders, Lewis, & Thornhill, 2015). Whether it is introducing a new theory, testing an existing theory or answering a specific problem, all entail the embeddedness of research philosophies and the creation of new knowledge. These assumptions define a scholar's understanding of the specific question, their approach to research and interpretation of the results (Crotty, 1998).

The chosen philosophical underpinnings help to direct the research. There is no one best philosophy or approach as the researcher has to align their own beliefs about nature, and knowledge and must

examine the extent to which their own perceptions may influence the research outcome. Wainwright (1997) argues that selecting an appropriate philosophical approach dictates a robust research process.

Researchers, particularly those in the social sciences, agree that clarity about one's assumptions is crucial as these drive the way researchers think about planning the research and their interpretations of the findings (Cassell & Johnson, 2006). Designing and carrying research forward is like playing a jigsaw puzzle. The researcher takes smaller pieces of the puzzle and joins them together; in the end, all the pieces fit perfectly. The completed jigsaw provides a coherent, clear and complete picture of the problem. When the researcher is fully aware of their own assumptions, the design and interpretation advance accordingly.

Understanding one's assumptions demands reflexivity; the ability to examine one's own beliefs, thinking and behaviours with the same scrutiny one uses to evaluate others assumptions (Gouldner, 1970). Researchers constantly struggle to form linkage between one's own philosophies and progressing with the development of knowledge (Alvesson & Sköldberg, 2009). Reflexivity enables a researcher to understand their own specific research philosophy. It requires one to evaluate their beliefs and assumptions. This process is like a bridge which links a researcher's philosophical position to the research to be undertaken. The next section describes the assumptions which helped me to build and choose my research paradigms and philosophies.

### **3.3.1. Ontology**

Ontology refers to a researcher's underlying assumptions about existence (Saunders et al., 2015). The nature of reality is also a part of ontology. The study of existence and answering questions related to the nature of "being" is ontology. This paradigm is interested in "what exists", or the assumptions about reality and what features constitute reality. There are several questions which ontological paradigm considers, such as 'what is out there in the nature?', 'what is reality like?' or 'what constitutes reality, existence and nature?'

In the business management field, these assumptions refer to how researchers perceive an organisation or business. For example, it includes questions like 'what are organisations comprised of?', 'what does it mean to be part of this organisation?' or 'what is it like to be in the management team of a specific organisation?'

Ontological assumptions are related to question such as, 'what are business models?', 'what is it being an owner of a business?' and 'what is it like to manage a business?' Table 3-1 defines the differences between objective and subjective approaches. This research acknowledges that business owners

and/or businesses are unique and therefore can interpret the same event differently. Therefore, this research applies a subjective approach to reality. This is explained further in Section 3.4.

### **3.3.2. Epistemology**

Epistemology relates to assumptions about how valid the knowledge is and how to acquire/spread knowledge (Burrell & Morgan, 1979). It is about understanding the validity of existence and how that understanding is acquired.

Philosophies span from a positivist stance (deductive approach) to interpretive stance (inductive or abductive approach (Saunders et al., 2015). Epistemology is concerned with how the knowledge was acquired. Therefore, data collection techniques may also vary depending upon a researcher's philosophy. Knowledge acquisition requires specific processes and methods; these methods are included under the umbrella of epistemology. The methods of observing, gaining and comprehending knowledge are underlying themes of epistemology. Epistemological realism covers questions like 'how is knowledge acquired?', 'how can we understand knowledge?' or 'how can we communicate valid knowledge?'

Due to the multi-disciplinary nature of business, there are many forms of knowledge and data available. Knowledge can include numerical and statistical information to narratives and stories; all types are considered legitimate. Therefore, different researchers adopt different epistemological paradigms, some conduct content analysis of already existed archives or narratives, some rely on surveys and some depend on thematic analysis of interviews or observations.

In terms of the current research, epistemological assumptions rely on answering questions such as 'what research techniques is going to be used for data collection?', 'how is the data going to be analysed?' and 'how it is going to impact upon pre-existing research?'

Figure 3-4 provides a visual depiction of the different philosophical approaches, with a pure positivist stance at one end to a pure interpretive stance at the other. This research is more aligned with the interpretive stance. The current research uses more qualitative, experience-based data. The present research uses a case study approach to collect data and grounded theory methods to analyse the data.

### **3.3.3. Axiology**

Axiology is the influence of one's belief's on the research process and findings (Saunders et al., 2015). In qualitative research, the researcher's bias is considered higher than in quantitative research. Bias can also be related to the data collection process, interview techniques and analysis. The philosophical

underpinnings of this research are broadly based on the assumption that there are many prevailing realities and that the context plays a major role in defining/finding the truth. The researcher acknowledges that everyone has his/her own experiences which shape their reality; even for researchers. I have learnt through the process. For example, during the interviews and analysis stages, I felt that at times, I added my own perceptions about aspects, events and phenomena. I later realised that I sometimes gave interviewees particular ideas or words; this was due to time limitations and concerns about getting all the necessary information. However, in later interviews, I learnt not to interrupt the interviewee. Despite becoming aware of this problem, there is still the possibility that some bias exists. In the process, this qualitative research has incorporated some of my own assumptions and beliefs.

### 3.4. Research approaches

There are two broader research approaches; objectivism and subjectivism. The diversity of management field offers many choices for philosophical and methodological underpinnings. The choices can be placed on a scale of two extremes. Table 3-1 explains the philosophical assumptions of these two extremes.

	<b>Objective approach</b>	<b>Subjective approach</b>
Ontology	The existence is defined by one true reality	There may be multiple realities depending on the context
Epistemology	Baseline assumptions are borrowed from natural sciences, therefore, facts and numbers-based data create generalised application	Assumptions are related to arts and humanities. Data is mostly opinions, stories or narratives and the findings are context specific.
Axiology	The researcher is considered an entity who is detached from the research. Hence, it is value-free research	The researcher is considered an integral part and the research overall is value bound and reflexive.

**Table 3-1: Objectivism and subjectivism**

This research adopts a subjectivist stance, not because the objective approach is of lesser importance. Objectivism has its own value in research. The former approach was chosen because the research phenomenon under study aligns better with the subjectivist approach. There has not been much research on business models, specifically on SMEs in a post-disaster context. This research seeks to fill this gap by investigating SME business models and how they recover in the post-earthquake context. The iterative process of data collection and analysis and constant reflection on my own values enabled me to understand, acknowledge and then limit my own bias in the findings.

### 3.5. Research paradigms

Burrell and Morgan (1979) suggest a framework for organisational analysis which consists of four paradigms; it has two axes and four quadrants. One axis has the subjectivist approach on one end and the objectivist approach on the other. The other axis ranges from radical change to regulation. Radical change is concerned with changing the current state of affairs. In contrast, the regulation perspective is concerned with improving the current framework or structure. Figure 3-3 shows this framework which is adopted from Burrell and Morgan (1979) work.

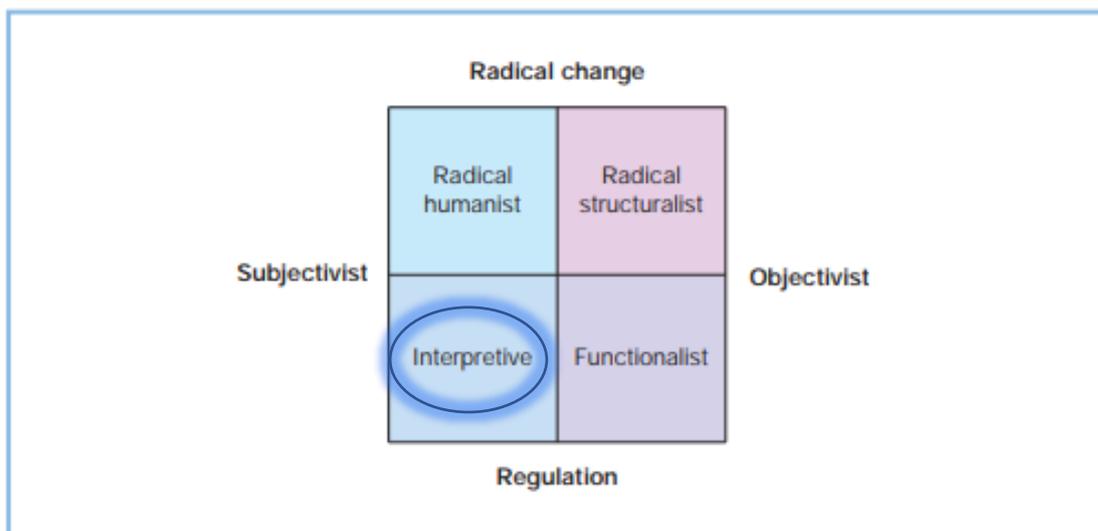


Figure 3-3: Four paradigms of organisational analysis

These four distinct paradigms have different approaches and explanations for their specific research approach. The functionalist paradigm links facts and figures: rational explanations provide an improvement in the current regulations or framework. In contrast, radical structuralism involves investigating the research problem objectively with the intention of fundamentally changing prior thinking. The radical humanist approach adopts critical thinking to research management and organisations. This approach is concerned with altering the status quo. The interpretive paradigm is most applicable to this research. The motive of this paradigm is to understand how participants make sense of a particular situation and what meaning they attach to aspect of the business. In terms of this research, the primary objective is to understand the organisation and explain what the earthquake experience was like.

### 3.6. Research philosophies in management research

This section explains the research philosophies (Figure 3-4).

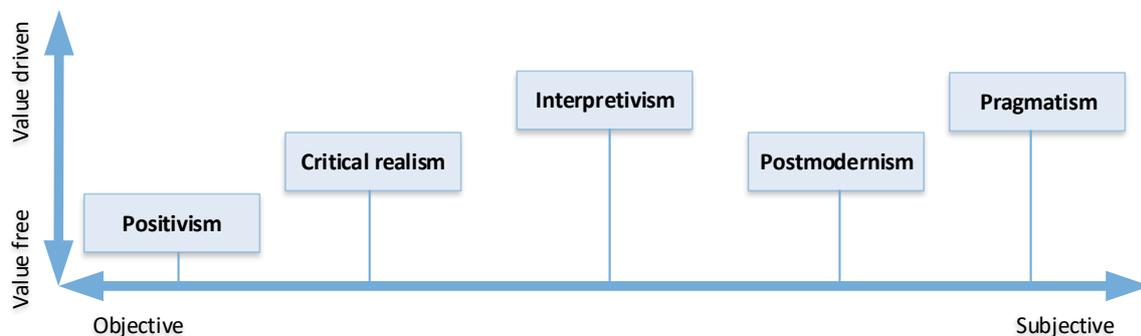


Figure 3-4: Research philosophies

#### 3.6.1. Positivism (Naïve realism)

This theoretical perspective sees research and its outcome as defined, objective and model based. It seeks objective knowledge and uses a deductive approach. It generally tests theory. Objectivist and realist ontological perspectives are related to positivism.

There are many benefits to this approach. These include keeping control over the research process, and the ability to analyse vast amounts of data in short time period is possible (such as the impact of inflation on consumer purchases for a whole city, region or country). Researchers using this approach believe that the truth can be measured using proper methods. Epistemologically, numbers and facts can be translated into generalised findings and causal relationships of variables.

Crotty (1998) suggests that positivist researchers try to separate their own bias and stay neutral and detached from their research methods and data. They try to implement value-free research as much as possible. This is plausible because the data is facts based and quantitative. They see themselves as external to the research design and data collection processes because there is little influence in gathering data, therefore, limiting researchers' bias in the final output.

#### 3.6.2. Critical realism (Postpositivism)

While critical realism believes that reality is independent of any influence, proponents suggest that there are many ways to access reality. This paradigm assumes that our perceptions are not complete representations of reality. In short, relying only on observations is not appropriate. This paradigm also suggests that the observation of some phenomenon is just a fraction of the whole reality. Bhaskar

(1975) clarified the ontological perspective of critical realism. There are three layers of understanding; the empirical layer (actual observation and experiences), the actual layer (realities that may or may not be observed using the five senses) and the real layer (relational properties of variables with persisting features). The ontological perspective dictates that there is more to what is being observed, therefore, epistemologically, they are interested in finding a deeper explanation that explains why things occur the way they do. In short, critical realism believes that numbers and quantitative analysis are not enough to create knowledge but instead a range of methods can be used to accumulate and spread knowledge. Researchers using this approach understand that some socio-cultural aspects may influence their work but they seek to minimise their bias and be as objective as possible.

### **3.6.3. Interpretivism**

This approach is interested in subjectivity and acknowledges the value of context. It is an inductive approach and helps researchers to build theories. Subjectivist ontology focuses on recognising the values, emotions and constraints people have. It is particularly interested in the how and why aspects of the research problem. The data analysis is cumbersome, and researchers live with the uncertainty of not knowing theory is likely to emerge from the data. They believe that the truth out there is more complex than what positivist think and needs further investigation.

The underlining assumption of this kind of research is that people perceive reality in different ways. This is because they have their own personal and social experiences. In short, everyone's interpretation of reality is different. Experiences are the result of social interactions, hence reality is interpreted in various ways. Interpretivists claim that reality is social constructed. These researchers explore what individuals experience and how to make sense of multiple experiences. Researchers seek to understand experiences, meaning and investigate a certain phenomenon more closely to interpret socially constructed reality (Cavana, Delahaye, & Sekaran, 2001).

These researchers do not produce any general laws about human behaviour but enrich descriptions of how and why people act in certain situations. Close interactions between researchers and respondents, whether organisations or individuals, enables in-depth interpretations of the context in which respondents interact socially and insight into perceptions and behaviours. This helps to clarify the underlying phenomenon and help others to understand hidden meanings of behaviours in contextually bound settings (Cavana et al., 2001).

Criticism associated with this type of research argue that it is too subjective and contextually specific. To counter this, Yin (2013) introduces the idea of analytic generalisation. According to him, case study

researchers must pursue analytical generalisation, seeking to extract more abstract level themes or ideas from their research which can be applied to new situations other than the specific context. The purpose of my research is to generate abstract level themes which are applicable to other contexts and situations.

This research philosophy is also based on the assumption that social constructs can be scientifically/systematically analysed and be represented in form of knowledge. The aim is to highlight concealed meanings; or respondents' perceptions of reality as they perceive it. Researchers thus work closely with their subjects to attain a complete picture of the subject's context. An inductive approach is preferable to an interpretivist's approach. It follows the data provided through interviews, focus-groups or observation by the research participants (Cavana et al., 2001).

This research philosophy is more appropriate for this study as it accounts for the subjective nature of responses and the context. This study tried to search for themes which are meaningful for the participants (Saunders et al., 2015).

#### **3.6.4. Relativism (Postmodernism)**

Relativists approach reality differently. They believe that there is value in the words, language used and power relations. They explore alternative views; in short, those which are considered non-mainstream. They seek to understand the marginalised views as opposed to accepted ways of thinking.

Postmodernism critiques realism, because it acknowledges that language plays an important role in the development and understanding of reality. Proponents reject the positivist approach as they believe that language is a base for encourage the change and progress into the experiences. They also believe that language is not complete. There is no particular way to describe the situation, hence, there is no specific way to determine what is right or true. They believe that 'truth' is decided by members of a society collectively. Foucault (1970) argues that 'truth' is determined by power structures and dominance in the specific context. This paradigm argues that the 'truth' in this context is not the 'best' approach, but rather that it is seen as 'truth' in the eyes of particular people in particular context. Perspectives which are not in the limelight, are equally as important as the prevailing truths and provide alternative realities or truths.

### **3.6.5. Pragmatism**

Pragmatism combines aspects of realism and relativism, by including practical implementation. This paradigm is interested in practical or action-based answers (Kelemen & Rumens, 2008). The paradigm starts with a real-life problem and seeks a solution. The problem can be identified through observation, experience or the belief that something needs to be corrected or improved. When the research is complete, the result is implemented to create change, modify or improve understanding or practices. It shows that one can use multiple methods to approach a problem and that one can provide practical answers.

## **3.7. Research methodology/strategies**

### **3.7.1. Case study**

This research used a case study methodology. According to Yin (2009), in the case study methodology, researchers have no control over the context or behavioural aspects which may affect the underlying issue. This approach is considered ideal for exploring new concepts; which in this case, is the survival and recovery of SMEs in the face of a disaster. Meredith (1998) suggests that new concepts can involve individual(s), organisation(s) or a whole community. A case study approach was appropriate for this research because it helps to examine research questions which will then lead to theory development. The case study approach is recommended for investigating complex behaviours (Eisenhardt, 1989) because it enables a researcher to gain in-depth information about the field. In the case study approach, one must first define the unit of analysis. The unit of analysis for the current research is small businesses in the Canterbury region of New Zealand.

Yin (2017) considers individuals, small groups and businesses as more concrete, and communities, relationships and decisions as less concrete cases. According to this categorisation, this cases in my research are more concrete as the research is based on small businesses. Although the aim was to business owners' decisions and the outcome of those decisions, the cases used for analysis were concrete.

*Holistic Multiple Case Study:* This research is designed to study small businesses (i.e. cases) particularly in greater Christchurch. The unit of analysis is a small business (SME). The study considers only one level of analysis (that is the business owner's perspectives) of SMEs and how they coped with the aftermath of the earthquakes over time. The benefit of adopting a multiple case study approach is appropriate in this research setting (Herriott & Firestone, 1983).

The analysis of case study as discussed by Yin (2017) are quite similar to grounded theory methods; coding, memoing and the iterative process of developing understanding of the phenomena (Charmaz, 2014; Miles, Huberman, & Saldana, 2014). While it is not necessary to have a theoretical proposition in grounded theory, initial analysis can provide some level of basic understanding and foundation upon which the researcher can build, verify or modify the analysis to reach an emergent theory.

### **3.7.2. Grounded theory**

Grounded theory was first coined by Glaser and Strauss (1967). This is considered to be the pioneering work in interpreting and analysing qualitative data (gathered through observation, interviews or focus group). They define grounded theory as an inductive approach which generates theory from the data obtained and analysed using a systematic process (Glaser & Strauss, 1967). According to Locke (2001), grounded theory has been used in a variety of fields, ranging from psychology to healthcare. This approach to qualitative research has been modified and advanced by its originators and other scholars. Subsequent researchers and followers of Glaser and Strauss adopted and developed grounded theory in their work. Currently, there are four broad streams within grounded theory. These are: (a) the original work of Glaser and Strauss (1967), (b) Glaser's later work on grounded theory and emergence (1992; 2008), (c) Strauss and Corbin's advancement (1994; 1990) and, (d) constructivist grounded theory (Charmaz, 2011, 2014; Mills, Bonner, & Francis, 2006, 2008). Regardless of the differences between these approaches, they all share some basic pillars of grounded theory. Grounded theory is not only a tool for generating middle-range theories but also a method for collecting data (Charmaz, 2008). The grounded theory method is a systematic approach for gathering and analysing data. It is acquired through the simultaneous process of data collection and data analysis. Therefore, grounded theorists design systematic methodologies to handle or understand underlying phenomena in their field of research (Charmaz, 2008). Grounded theory methods also emphasise emergence. Emergent design is a flexible approach to data collection and analysis. Researchers change their findings based on what the current observation is and what was previously learned. The research questions or aims may be altered after gaining new insights on the data and field of study. This method allows a researcher to constantly change/adjust their research design to ensure they have the best possible interpretation of the material. As a result of this this flexible design, emergent categories are generated. Emergent design is sometimes referred to a "circular process" because it does not follow a linear process or well-defined research phases.

This research uses the constructivist grounded theory approach because it is best suited for the research questions (Bryant, 2002; Charmaz, 2014). Knowledge is generated through the exchange between the researcher and the participants. The researcher/s play a vital role in the whole process.

The founders of grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1994) acknowledge that knowledge and meaning is constructed via interactions with the researcher and participants.

The constructivist approach is reflected in each step of the research process, from data gathering techniques to presenting the report. For example, during the interview, the nature of interaction between the investigator and participant is reciprocal and learning is considered mutual. This process provides the interacting parties with more clarity. The complexity of the subject matter sometimes becomes apparent, by probing during the conversation, which results in a deeper understanding. This means that interview process is essentially a tool for the construction of knowledge due to the shared input of the investigator/s and participants.

After data collection, the role of reflexivity is crucial during data analysis and interpretation. Grounded theorists acknowledge that researchers cannot leave their past experiences and assumption behind, as these assumptions develop the ontological and epistemological underpinning of the research. Strauss and Corbin (1994) encourage researchers to keep a record of their thinking about the research, analysis and how their thinking is modified during the study. Most importantly, they encourage researchers to reflect upon how the underlying assumptions are influencing the data analysis process. Reflective memos help researchers to move from descriptive data to an abstract, conceptual level of analysis.

In constructivist grounded theory, theorising is an iterative process. Data collection and analysis inform each other. The generation of several codes from the raw data enables a researcher to seek emergent, abstract themes to develop middle-range theories. Sampling is based on theoretical saturation; data collection and analysis are considered complete when there is a repetition of categories and themes in newly collected data. The iterative process will result in categories and eventually devising an emergent theory. This method beautifully incorporates issues such as researcher context (as a researcher cannot escape from prior knowledge), prior literature and reflexivity. This method is best suited for this study's research question.

### **3.8. Approaches to theory development**

The approach to theory development is a necessary tool for determining how data should be gathered and analysed. It specifies the fundamental reasoning/justification for the analysis or whether researchers are testing or developing a theory. Figure 3-5 depicts three different reasoning processes.

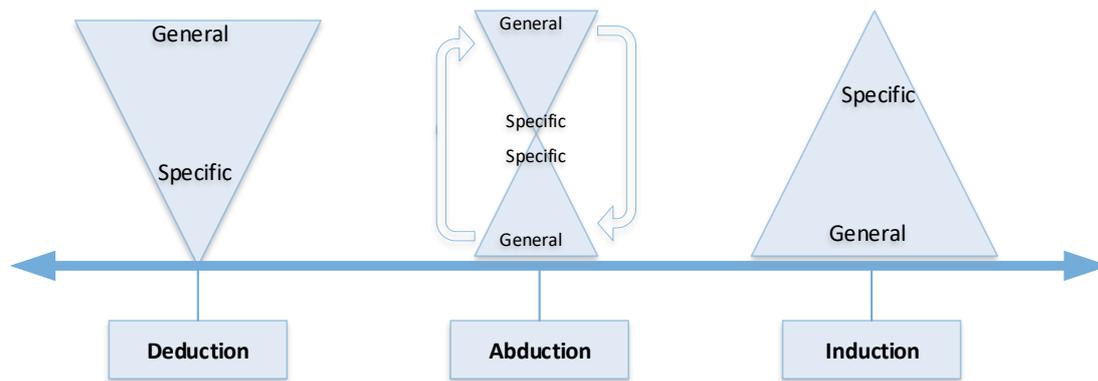


Figure 3-5: Deduction, abduction and induction reasoning

### 3.8.1. Deduction

Deduction is a type of reasoning when a generalized theory is applied to the specific research settings. For example, a researcher may apply motivational theory to an employee or organisation. There is a set pattern for the data collection and analysis. 1) A theory is selected. 2) Testable hypotheses are developed. 3) Data is collected after finalising the research settings. 4) Data analysis shows if the testable hypotheses are confirmed or rejected. 5) The accepted hypothesis would sustain. Quantitative researchers tend to embrace this reasoning, and use scientific methodology to conduct their research (Ketokivi & Mantere, 2010).

Deductive research approach seeks to explain the causal explanations of the variables. After going through the literature, many hypotheses are developed. This type of research would adopt a structured methodology which aids replication. This replication is an advantage for ensuring the reliability of the research.

Another feature of this research is operationalisation. This makes it easier for the variable to be measured quantitatively. The variables must be precisely defined. They must be described in the simplest way possible and reduced to their most basic element to ensure better quantification.

Another feature is generalisation. The sample is carefully selected to ensure it is representative of the population. A representative sample is selected through random sampling. The result are then generalisable to that population (Saunders et al., 2015).

### 3.8.2. Induction

Induction is the opposite of deduction theory development where the underlying phenomenon is looked at from a broader perspective and then applied to a more specific context. Theory development begins with the data. Then, the theory is progressed to abstract, conceptual level

explanations using inductive reasoning (Ketokivi & Mantere, 2010). Advocates of the inductive approach criticise deductive reasoning for having a methodology that does not allow for varied explanations.

The most critical factor in the inductive approach is the study context. It requires in-depth analysis of a smaller portion of the population and is highly representative of the situation-bound scenario, which is not possible to do with a larger sample that the deductive approach suggests (Saunders et al., 2015). The rich data through a small sample size help to explain the context-specific, mid-range theories. Qualitative research design is suitable for this research approach.

### **3.8.3. Abduction**

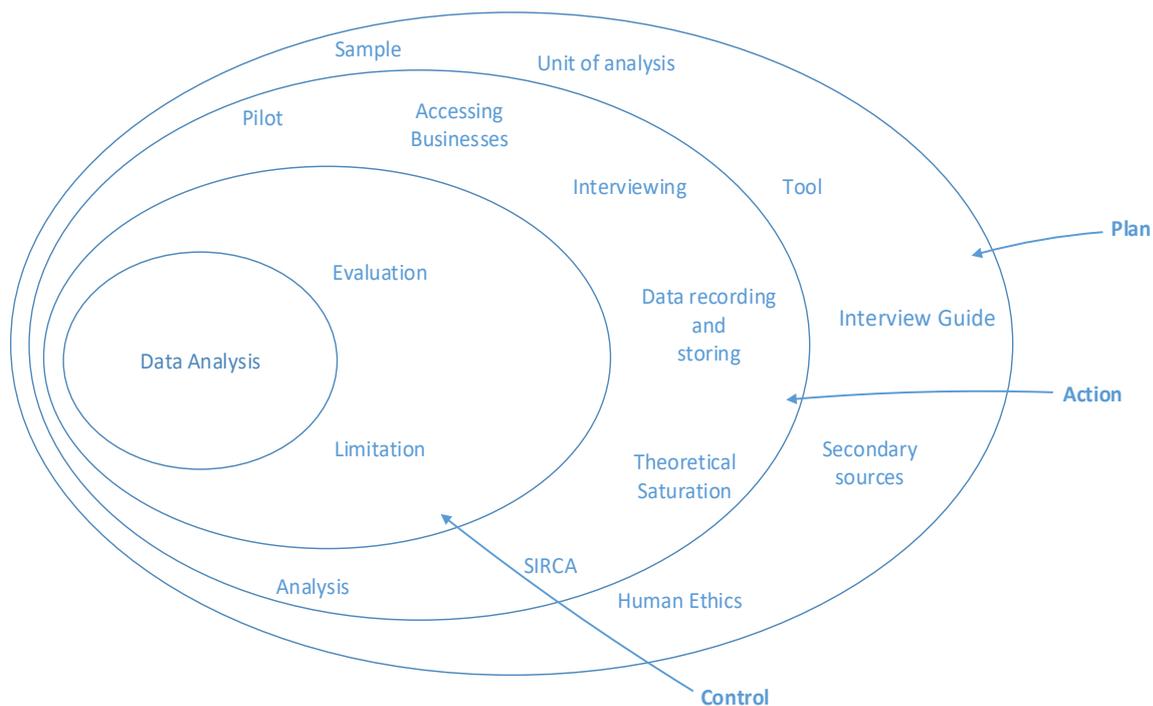
This approach is a combination of induction and deduction approaches. Theory is generated from the data and then the researcher returns to the field to test it. It uses back and forth reasoning, which starts with the assumption of generating theory from a data set through inductive reasoning and then checks the applicability of it (Ketokivi & Mantere, 2010). Therefore, the combination enables it to have a nice balance and confidence in the theory. Abduction is a powerful technique which satisfies today's need for mid-range theories. The first level of data from a sample can offer a framework for analysis and its applicability can be seen to larger extent in a larger sample.

This research uses an abduction approach first to develop a model and then verify and modify it in later stages of the study. The first phase of data collection generated an initial model which provided a foundation for the second data collection phase. Later, emergent themes were verified, modified and confirmed by further data collection and analysis.

## **3.9. Research design**

This research employed a qualitative research design. More specifically, it uses a case study approach and grounded theory methods for generating a mid-range theory based on abduction. Understanding the underlying philosophies and paradigm enabled me to better understand the research design and its limitations.

Figure 3-6 provides a summary of the research process and design which the researcher has compared with the planning, organising/action and controlling functions of management.



**Figure 3-6: Research Process/design**

The planning phase of the research process required me to think about the sample, sampling strategies and the selection criteria. The unit of analysis was already well-defined. During this stage, interview protocol and data collection tools were decided. Secondary sources such as information brochures from the businesses and other materials were included in the checklist for research data. Before beginning phase one of the data collection phase (action part of Figure 3-6), I applied for human ethics approval.

In to the second phase (action), I conducted pilot interviews to avoid any ambiguities in the interview process. Subsequently, I began to collect information about the businesses (the specific cases). Each business was contacted for their consent and approached for interviews. This phase also included initial data analysis and securing the confidential information and the transcripts. This is the phase in my research where the theoretical saturation is realised. All of the secondary data (written material and website information) was also gathered during this phase.

The last phase is control, completed simultaneously with the action phase; I evaluated the research design and examined the limitations of the whole research process.

### **3.9.1. Overview**

Given the sensitive nature of the phenomenon that was investigated, this research employed a qualitative research design and used an interpretive approach. Data was collected using multiple

sources, both primary and secondary. Most of the data was gathered through in-depth, face-to-face semi-structured interviews (primary source). I also used news archives, annual reports and account records (secondary sources).

An interview template was designed to engage respondents so that the researcher could listen to their earthquake experiences. The interview template focused on the decisions they made and how they modified their business model as a result of the disaster. It contained eighteen broad questions that allowed the researcher to probe further about the dynamics of the decision process.

The interview protocol was submitted to the University of Canterbury Human Ethics Committee (HEC) for approval. Prior to collecting data, I collected written consent from all participating businesses. All of them were provided with information about how their data would be used (with pseudonyms used to protect their identities) and how the research's results would be presented. The remainder of the chapter explains the interview guide, methods of approaching subjects, and the development of questions/probing questions.

### **3.9.2. Sample**

#### ***3.9.2.1. The criteria for case selection***

This section discusses the criteria that were used to select small businesses for this research. The selection criteria help to focus the research.

*i. Business size:*

The research only included small and medium businesses (SMEs). As SMEs are defined differently in different parts of the world, this research used an official definition from New Zealand's Ministry of Business (MBIE, 2014).

- ii. According to MBIE (2017b), small and medium enterprises have fewer than 20 employees (Employee Count (EC): 0-20). MBIE divided small and medium enterprises into three groups; zero (EC = 0), micro (EC= 1-5), small (EC= 6-19).

*iii. Operational status:*

Operational status was also used to select businesses. Businesses which were operational pre- and post-earthquake were selected to compare the changes they made surviving through the disaster. The main reason for selecting businesses based on this criterion was to gain information about their pre-earthquake business model and compare it with their post-earthquake model. I also wanted to understand how and why the selected businesses were able to survive the disaster.

There were two challenges associated with recruiting businesses for the study:

1) The earthquake occurred almost six years before I started recruiting businesses for the research. The businesses had moved on and did not want to participate in any research. 2) The other reason was that there had already been a number of studies which were conducted post disaster, especially for businesses who were located in the CBD. In short, many business owners had already participated in other studies and were not interested in being interviewed again. In one instance, a business owner apologised because he had recently been interviewed by University of Canterbury staff.

iv. *Area:*

The area was greater Christchurch. The earthquakes of 2010-2011 had the greatest impact on this region of New Zealand. The area and its development required multiple local governments such as Christchurch City Council (CCC), Selwyn Council and Waimakariri Council. Therefore, the geographic boundaries of this research are defined on the basis of how much area was affected after the earthquakes. Figure 3-7 shows the areas (circled yellow) of data collection.

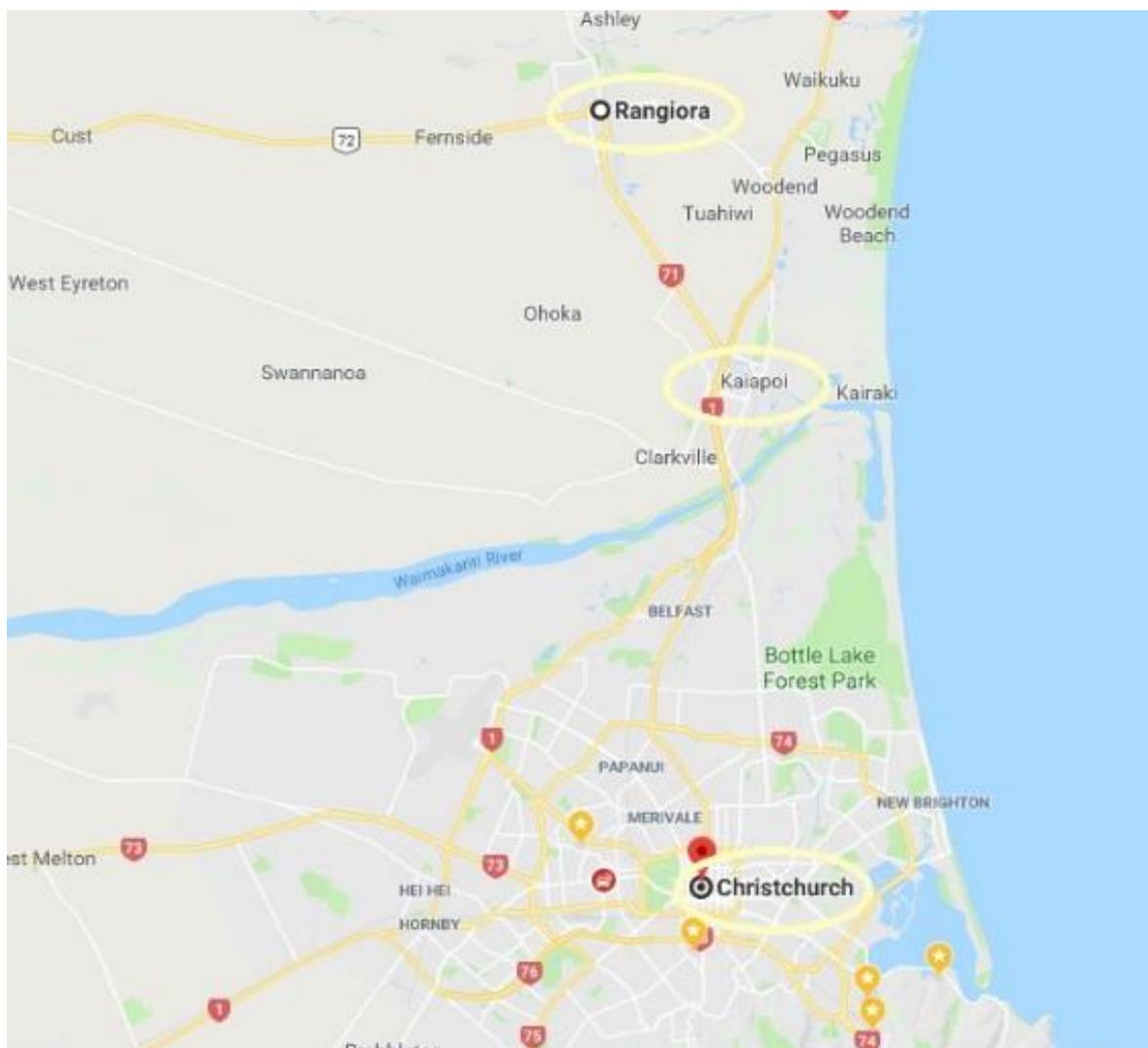


Figure 3-7: Area for data collection (circled yellow)

### **3.9.2.2. Sample size**

At the beginning of the research, there was no set sample number. The aim was to find explanations and variations in the data till theoretical saturation was reached (Charmaz, 2008).

### **3.9.2.3. Why not non-trading organisations?**

There were several reasons why I decided to exclude non-operational businesses in the post-earthquake context. First, the primary aim of the research was to compare business practices before and after the earthquake. If any business had ceased operations after the earthquake, they would not fit the selection criteria and therefore must be excluded.

Second, data collection did not begin until almost six years after the earthquake. As mentioned in Chapter 1, during this time, many businesses relocated to other cities due to the depopulation effect. It was harder to find businesses which went out of the industry/market. Therefore, I decided to look for businesses who were maintaining some level of trade after the earthquakes. Finding these businesses and then getting their consent to participate in the study was near to impossible. For instance, I called one business owner using cold calling (YellowPages, 2015) but the business had ceased operations and the owner did not want to talk about it.

Third, business owners had moved on with their lives and were not dealing with the immediate post-earthquake chaos. This meant that many were unwilling to talk about an unpleasant time of their lives.

### **3.9.2.4. Organisations and their sectors**

A total of 32 SMEs was studied in the research. Data collection and analysis were iterative. Initially, the research was focused on Christchurch city. During the data analysis, it became apparent that it would be beneficial to broaden the location to gain more data and compare results. Industry-wise, the organisations were combinations of retail, business to business and consultancy. The specific industries included pharmacy, furniture, IT, retail, education, housing, construction, and dairy shops. Table 3-2 provides a description of the businesses.

<b>Sr.</b>	<b>Business sector*</b>	<b>Business size**</b>	<b>Type***</b>
1	Furniture	Small	B2B
2	Information Technology	Small	B2B
3	Clothing	Micro	B2B
4	Appliances	Small	B2B
5	Monuments Shop	Small	B2B
6	Construction	Small	Retail

Sr.	Business sector*	Business size**	Type***
7	Construction/renting	Micro	Retail
8	Construction	Micro	Bigger projects
9	Education	Small	Students
10	Jewellery	Micro	Retail
11	Camera & Photography	Micro	Retail
12	Production	Micro	Retail
13	Saloon	Micro	Retail
14	Home decor	Micro	Retail
15	Camera & Photography	Micro	Retail
16	Saloon	Small	Retail
17	Food	Small	Retail
18	Pharmacy	Small	Retail
19	Fashion	Small	Retail
20	Food	Small	Retail
21	Dairy	Micro	Retail
22	Food	Small	Retail
23	Food	Small	Retail
24	Dairy	Micro	Retail
25	Fashion	Micro	Retail
26	Furniture	Micro	Retail
27	Camera & Photography	Micro	Retail
28	Departmental store	Small	Retail
29	Fashion	Micro	Retail
30	Electric	Micro	Retail
31	Consulting	Micro	B2B/Retail
32	Consulting	Micro	B2B/Retail

\*'Business sector' is defined by the broader categories of operations to secure the identities of the respondents  
\*\*'Business size' definition is taken from the definition provided by MBIE in the small and medium annual report (2015)  
\*\*\*'Type' is defined by the interaction of the businesses with direct customers or other businesses

**Table 3-2: Case studies**

### 3.9.3. Unit of analysis

The unit of analysis (Yin, 2014) in this research is a small business. The research was interested in how businesses continued operations after a major disaster. More specifically, I analysed changes in their business practices and the reasons behind those changes. The selection criteria for the cases was that they were operating in some form or another after the earthquakes.

Figure 3-8 shows that businesses and the owners/managers cannot be separated: that the businesses reflect owner specific attributes. Therefore, changes in the businesses are highly backed by the philosophies of business owners/managers. The owners are the decision-makers in SMEs and the businesses reflect their owners' thinking.

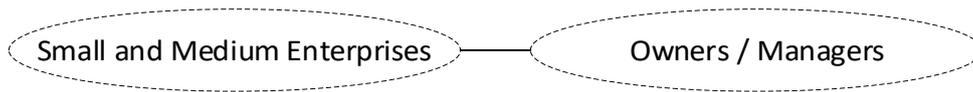


Figure 3-8: Unit of analysis

### 3.9.4. Tools and instrument for data collection

An interview protocol was developed before data collection commenced. It was based on the business model canvas (Osterwalder & Pigneur, 2010) which was used for developing the interview questions for the evaluation of business models prevailing for the small businesses (the research participants). The business canvas model has nine different elements (refer to Table 3-3). As Osterwalder and Pigneur (2010) argues, this tool can be used to determine, evaluate and modify the current business model. In this research, it was to evaluate the prior and post-disaster business model to identify operational and strategic business changes. I also used probing questions to find the reasons behind those changes.

Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segments
	Key Resources		Channels	
VALUE CREATION			VALUE CAPTURING	
Cost Structure		Revenue Streams		
PROFIT MAXIMIZATION				

Table 3-3: The business model canvas, Source: Osterwalder and Pigneur (2010)

The base definition of business model for this framework is the same which researchers have consistently used (Afuah, 2004; Chesbrough, 2007; Johnson et al., 2008). The model focuses on business rationale. It has three major components: value creation, capturing value and delivering it to customers (profit maximisation).

The business model canvas illustrates the business model using nine building blocks. These building blocks represent a business' processes or procedures which it uses to generate profits. According to Osterwalder and Pigneur (2010) these blocks relate to four basic areas: customers, market offering, resources and financial stability. They also refer to a business model or implementation of a firm's strategy.

The reason this framework was chosen is that a disaster has the potential to directly affect six of the nine building blocks: (1) key partners; (2) key activities; (3) key resources; (4) customer relationships; (5) channels; and (6) customer segments. The remaining three would be indirectly affected.

#### **3.9.4.1. *The interview guide***

These nine building blocks were used as a base for designing the interview questions. A semi-structured interview was developed, which contained 18 questions. The questions covered the business nature, customers, suppliers, finances, core business activities, value propositions and broader context and environment. Multiple data collection tools were used to gather data. However, the main form of data collection was semi-structured face-to-face interviews. While most of the interviews lasted between 45 minutes to one hour, some took two hours. The respondents were managers, CEOs and business owners. The nature of SMEs makes it justifiable to interview the person/s who have direct authority to make organisation-level decisions. It is crucial to interview business representatives who have the authority, knowledge and broader understanding of how the business works. Additionally, they are able to provide me with the required information; that is, how and why they made changes to the business after the earthquakes.

These 18 questions were used as conversation starters. I wrote down further questions or points to expand upon while the respondent was answering. These insightful conversations enabled me to understand the business dynamics, the business environment and how the business evolved after the earthquakes. These interviews were recorded at the time of the interview and later transcribed through using transcription services, transcribewreally<sup>4</sup>.

Later on, in research process, the interview questions were accompanied by several sets of tables (see Appendix C) for keeping the record during the interview. This enabled me to ask targeted questions and reduce the interview time. These targeted questions were related to operational changes, personal attributes and relationships with partners. These tables (refer to Appendix C) were helpful in tracking the answers and ensuring that the interviewee stayed on track. They also helped because they provided a record of what had been discussed and what points needed elaboration. I developed these tables merely to keep track of the things that are needed to be asked. I also took along the consent form which was signed by each participant and a copy of the information sheet in case interviewees wanted to re-read it.

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<sup>4</sup> <https://transcribe.wreally.com/>

#### **3.9.4.2. Secondary sources**

I also used a range of secondary sources. These included website data, marketing data from the time of the interview (pamphlets and brochures), archives and financial records for the businesses (these were used to gain insight into each firm's financial performance). These secondary data sources were used to analyse the context in which the business was operating. Newspaper excerpts, and awards/recognition from different authorities, which were presented to the SMEs for their performance after the earthquake, were helpful in identifying key themes and therefore were used as support material for the analysis.

SMEs are typically less structured in terms of record keeping. As a result, I used only financial information gained from the interviews (financial position and cost structure), rather than official financial documents. Interview subjects were assured that sensitive financial information would not be disclosed to any other parties except for the research team.

In later stages, I recognised that during the interviews, owners/managers were not discussing their financial condition prior and post-disaster. Thus, I decided to examine financial performance using the SIRCA database. However, due to the size of many of the businesses, it was not possible to obtain enough data to make any solid conclusions.

#### **3.9.5. Human ethics**

I completed a University of Canterbury Human Ethics (HEC) application, under the low-risk category as the research was not considered sensitive. I obtained a list of important contacts in case of emergency. This was considered a necessary step in case a participant had an emotional breakdown and/or to protect the safety of both the participants and the researcher. After reading the initial application, the HEC asked the researcher for further clarification around finding participants, specifically the use of the seismic research publication/database. After due consideration of HEC's suggestions, I decided not to take this route to safeguard the participants' confidentiality. The application was resubmitted and approved.

#### **3.9.6. Pilot study**

I conducted a pilot study to ensure that the data collection process would run smoothly. I approached Resilient Organisations (ResOrgs)<sup>5</sup> and asked them to participate. They were asked to provide any

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<sup>5</sup> <https://www.resorgs.org.nz/>

comments on the interview guide and suggestions about how best to build rapport with the interview subjects which is crucial for effective data collection. These researchers provided me with techniques and tips for getting good data. The feedback was helpful in preparing for the interviews; the tips involved breaking the ice, asking the question in order of importance, managing time and techniques for asking probing question so that conversation would flow. They also provided helpful advice about eliminating some questions and adding new ones to ensure I obtained information about the business model and recovery stories. The HEC application and pilot study were carried out simultaneously and the changes were incorporated into the final HEC application.

### **3.9.7. Sampling**

The data collection began in March 2016. Access to organisations in the aftermath of a disaster is always problematic (Hall, Malinen, Vosslander, & Wordsworth, 2016). The main challenge was that areas in the greater Christchurch region were over-researched for management topics in the post disaster setting. As noted earlier, one business owner apologised because he had already participated in University research and did not want to participate in further studies.

The initial focus for data gathering was to select from a range of industries such as construction, retail, restaurants, beauty salons and other small businesses. The logic was to gather a wider variety of data in order to generate a model which would be applicable to wider range of small businesses. With this clear aim and an inductive qualitative approach, the data collection was started through selecting a range of companies which were present in the Central Business District (CBD) of Christchurch. As the research progressed and it became clear that business model was not the major issue for small businesses, I had to adjust my sampling approach to seek the emergent themes. Though, it was still purposive sampling, I needed to locate participants in a different manner, from a wider business community which included suburbs of Christchurch and surrounding townships. As the data collection and data analysis was iterative, the emergent themes informed the data collection. I asked the existing participants for their referrals in the business community, with emphasis on not collecting data from only one industry. This effectively involved a snow balling approach which enabled me to gather from diverse industries and areas. Later in the data collection, because of the wider range of areas, I had to use other means such as phone calling and door knocking to enable me to approach physically distant businesses in other townships. As the data analysis was carried simultaneously, the list of companies was compiled as the data was collected until theoretical saturation was reached. In total, the data collection took one and a half years. The process was slow because I was conducting analysis at the same time. I used this process and the extra time to refine the interview questions. Theoretical saturation was reached after 30 interviews.

### **3.9.8. Data collection**

Building theory from case study research using grounded theory methods requires gathering, coding and analysing data simultaneously. This iterative process of data collection and analysis helps the researcher to understand the underlying phenomena from the outset. Due to the flexibility of data collection embedded in theory building, I traced the emerging trends or patterns across cases. By doing this, data collection and analysis overlapped and helped in building theory from the start. By comparing multiple case studies, I was able to develop theory at a very early stage of the process.

During the data collection, I made changes to the interview guide. These related to the order of questions. While some critics raise questions about the legitimacy of modifying the research protocol, Eisenhardt (1989) argues that adjusting the design provides a truer picture of the field of study. The intention behind these alterations is to better explain the phenomena or bring new insights into theory building. This is what makes the grounded theory methods emergent; building theory from a case study by using grounded theory methods makes the data collection and analysis an iterative research design.

Two phases: The main research question and methodology dictated the way in which data was to be collected. Therefore, keeping grounded theory methods in mind, data analysis was started as soon as the first interview was complete. After nine interviews, data collection was paused to observe emerging patterns and to modify the interview guide accordingly. After the first phase of data gathering, an initial model was developed to confirm and modify in later interviews.

I completed 23 interviews during the second phase of data collection. The previously developed model was verified and refined as a result of these later interviews and data. Further details are provided in the analysis chapters. Figure 3-9 illustrates the steps used for data collection and analysis.

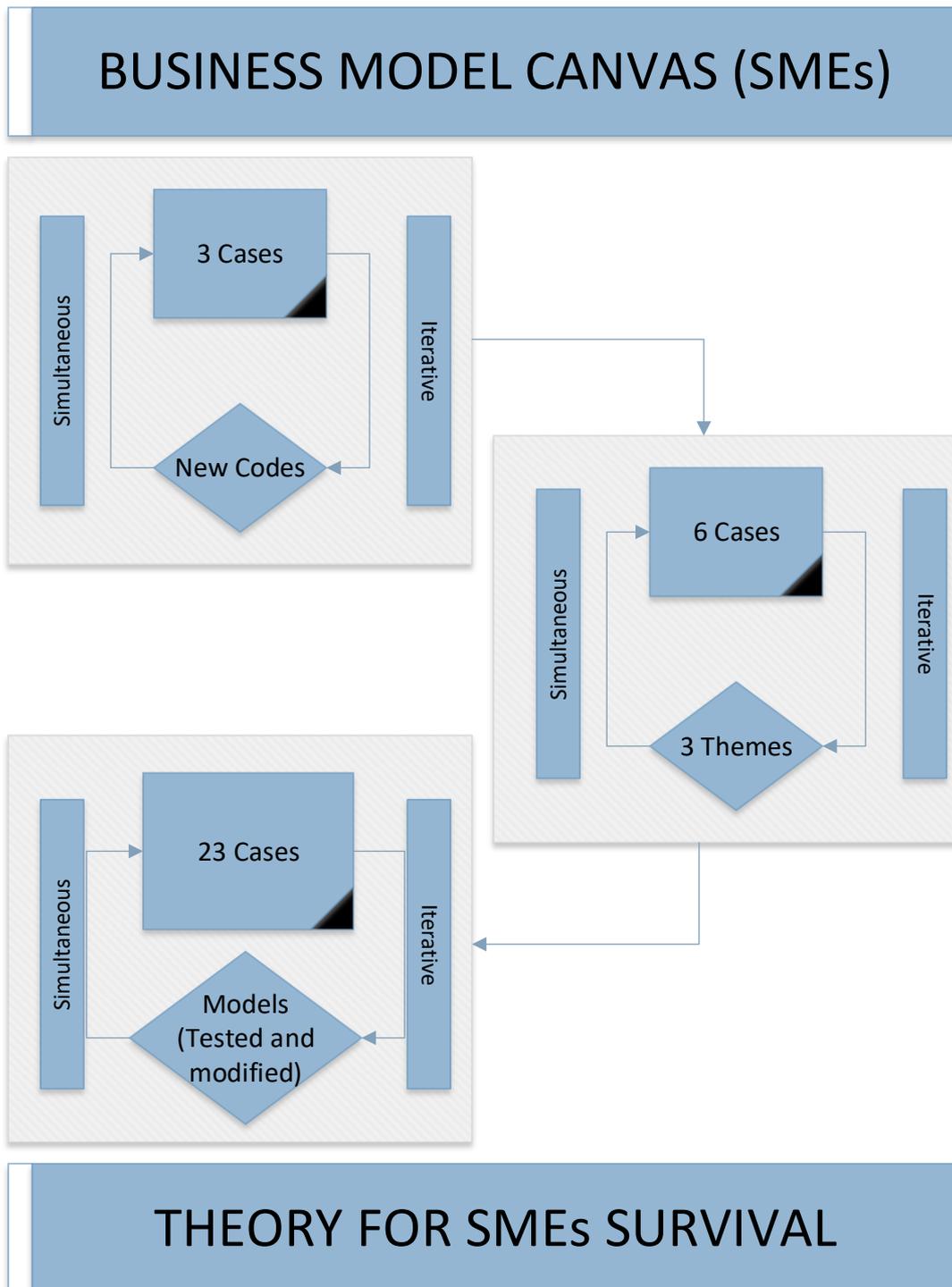


Figure 3-9: Data collection and analysis process

### 3.9.9. Data Recording and storing

The interviews were recorded using an electronic recorder (with respondents' consent). After each interview, I recorded field notes and impressions. I used these to modify and amend the interview guide. I completed the transcription for the first phase of data collection. I listened to the recorded interviews multiple times to ensure the quality of the transcripts. I sent later interviews to a

professional transcription service. In this instance, the transcription files were verified with the audio file and necessary changes were made in the transcription files.

Listening to the audio files, repeatedly, was beneficial. First, it helped me to understand the data in detail. The analysis was strengthened after listening to the nuances of both, the interviewer and the interviewee. Second, it helped me to identify errors that I had made while conducting the interviews; for example, there were some points in the probing, where I realised that I could have asked further probing questions. Thirdly, it helped me to prioritise the questions and ensure that I did not waste respondents' time.

The data was stored physically and electronically. The printouts were locked in the facility provided by the University of Canterbury, the keys to which were in sole possession of the researcher. Electronic copies were saved in a password protected cloud facility. The cloud facility helped to ensure that the data was secure in the event of any mishap with the computer, hard disk or any software crashes, including natural disasters.

### **3.10. Analysis of data**

Data collection took over a year and half, which meant that there was ample time for the transcription and in-depth analysis of the transcripts before moving into further interviews and data collection. It provided opportunities to collect new data and verify emerging themes from the previous data. Miles et al. (2014) recommend that qualitative researchers conduct analysis concurrently with their data collection because the method enables the researcher the flexibility to see gaps in the existing data and change their data collection approach. This make data collection and analysis a simultaneous process. The researcher collected data in form of interviews (later converted into written transcripts), handwritten field notes (later converted into write-ups) and the brochures/printed material provided by the businesses.

According to Saldaña (2015), there are two levels of coding: first level coding and second level coding. First level coding refers to the way data is initially interpreted. These are the terms that are assigned to chunks of data. For this research, line-by-line coding was initially done to ensure there was no information left which was crucial for the analysis. Second level coding was used to condense the first level codes and assign them to bigger paragraphs or chunks.

I primarily used Descriptive, In Vivo and Process coding. Examples for first level coding are provided in Table 3-4.

Quotations	Codes	Types of code
We got 45 minutes in there and the we hired a van and a trailer so we got in there and just grabbed whatever we could. (B2B 03)	Acting Quickly	Process
It is a family business. And brother is very <b>passionate</b> about it. He is. He loves the business. (B2B 01)	"Passionate"	In Vivo
We can respond fast, when customers need something or want to change something. Most of our customers experience that turn around in less than half an hour. (B2B 02)	Responding to customers quickly	Process
Basically, as my brother and I, after worked has finished, our staff has left at 4:30 and we are still doing something and we are sitting in the office and saying, "I think we will do the things this way. I think we should go down this road rather that one". And it would happen. (B2B 01)	Quick Adjustment, Flexibility	Descriptive
So, very much I think it is the <b>passion</b> for and they align. He has a <b>passion</b> for building, I have a <b>passion</b> for investment. My mom has a <b>passion</b> for building and investment. (Construction 01)	"Passion"	In Vivo

**Table 3-4: First level coding**

Second level coding (pattern codes) involved developing themes and analysing patterns from initial codes. In other words, related codes were combined into bigger, abstract categories. Table 3-5 shows the development of pattern codes and categories.

Quotations	First level codes	Pattern Codes
We got 45 minutes in there and the we hired a van and a trailer so we got in there and just grabbed whatever we could (B2B 03)	Acting Quickly	<b>Prompt Actions</b>
We can respond fast, when customers need something or want to change something. Most of our customers experience that turn around in less than half an hour. (B2B 02)	Responding to customers quickly	
Basically, as my brother and I, after worked has finished, our staff has left at 4:30 and we are still doing something and we are sitting in the office and saying, "I think we will do the things this way. I think we should go down this road rather that one". And it would happen. (B2B 01)	Quick Adjustment, Flexibility	
It is a family business. And brother is very passionate about it. He is. He loves the business. (B2B 01)	"Passionate"	<b>"passionate"</b>
So, very much I think it is the passion for and they align. He has a passion for building, I have a passion for investment. My mom has a passion for building and investment. (Construction 01)	"Passion"	

**Table 3-5: Pattern coding**

Through grounded theory methods of coding and memoing, an emergent theory was built. NVivo software was used to store and manage the data and observations. As data was collected and analysed simultaneously, memo writing helped me to see patterns in the data (Charmaz, 2008; Saldaña, 2015). These emergent aspects enabled me to develop a tentative theory. Within-case analysis (Yin, 2017) helped me to see the context in which an organisation adopted/changed the business model. This aided me to define initial properties of changing/evolving business models. Cross-case analysis helped me to understand the similarities or differences in the environment to better comprehend the "why"

aspect of different business models. Comparing the cases provided me with different themes and categories.

*Theoretical saturation:* Data was gathered and analysed until there were no new aspects left to be added to the theory development and the same features or themes were repeatedly seen. This point is described as theoretical saturation; at this point, it is not necessary to conduct further interviews as they will not provide any new information or add to the developed theory.

*Analytical/reflective memos:* Groenewald (2012) notes the importance of analytical and reflective memos. These are the notes researcher writes to record concepts, ideas, reflections, and relationships between different themes/categories/concepts. These are reminder notes for the researcher, which can be used as the research progresses to measure the development of ideas and relationships. Grounded theory methods (Charmaz, 2014; Miles et al., 2014), encourage the use of reflective memos to develop theory: these must be systematic, properly dated and recorded. Analytical memos helped me to reflect upon the data, participants, and codes. This enabled reflexivity in the research. I wrote reflections about the interviews in the form of reflective/analytical memos. This not only enabled me to question the data and codes and define them but also to think about biases, limitations, and future research.

### **3.11. Evaluation**

Reliability is a key concern in qualitative research (Kirk & Miller, 1986; Krefting, 1991). Realist scholars often critique qualitative research for its lack of objectivity. Quantitative researchers use terms such as reliability and validity to enhance the impact of their research. Reliability refers to the consistency of variables and obtaining similar results when repeating the test/s. Validity is concerned with assessing the instruments and methodology adopted. If we judging qualitative research using these two criteria, it would fail. For example, from a validity perspective, qualitative research might be considered too broad and subjective. Likewise, because qualitative research is context-specific, it is difficult to replicate the same results in a different field of study.

The application of quantitative measures to qualitative research is challenging. They are not compatible with the philosophies and paradigms. Therefore, qualitative researchers needed to come up other ways of establishing their validity. Qualitative researchers believe that research findings cannot be separated from a study's context. Many researchers have proposed the idea that disapproving the reliability and validity will evoke positivist researchers to criticise qualitative research. Consequently, qualitative researchers have suggested criteria to measure the rigour and

quality of their research. They have introduced alternative measures which corresponding to quantitative measures (Guba, 1981; Thomas & Magilvy, 2011).

Internal validity of quantitative research is related to credibility in qualitative research. Whereas, external validity is matched with transferability in qualitative research; reliability (quantitative research) is interchanged with dependability and lastly, objectivity is substituted with confirmability. These criteria are widely accepted and used in qualitative research (Eisner, 2017; Golafshani, 2003; Holloway, 2005b). The following section provides further information on each of the criteria.

### **3.11.1. Credibility**

In order to determine the internal validity (a term used in quantitative research) of qualitative research, researchers have to deal with questions such as whether the research is genuine, whether the findings can be trusted or whether the explanation fits the description of the participants (Thomas & Magilvy, 2011). All these parameters measure the authenticity of the research. Interpretive research assumes multiple realities and multiple ways of approaching reality; the authenticity of the research can be seen in the ways these realities have been portrayed in the research. Credibility is strengthened by careful selection of the sample, because the sample is selected on the basis of knowledge and speciality for the subject. Another way to authenticate the research is through triangulation (Creswell & Miller, 2000; Jick, 1979). The current study's sample was based on specific criteria; that is, SMEs. I interviewed business owners of SMEs because they make the decision; they have SMEs expertise, knowledge and experience of their business and they can provide a complete picture of their business.

The credibility of the research is established through peer examination. The transcripts of my data were examined by multiple researchers and experts in qualitative research. This gave me confidence in the findings and analysis as the experts endorsed the same findings. Additionally, the experts reviewed the data analysis process, based on Holloway (2005a)'s suggestions.

### **3.11.2. Transferability**

Transferability is the measure in which qualitative research is checked for the applicability of the findings to other contexts. This criterion tries to provide a basis for generalising the research. But generalisability is a quantitative tool, whereas transferability refers to analytical applicability to similar contexts or individuals (Kuper, Lingard, & Levinson, 2008). Though the theories are mostly induced from the data, it is very important that the theoretical application can be generalised for other settings of a similar nature. The applicability can be expounded by sampling strategies and proper accounts for research settings. Yin (1994) has argued about the generalisation of case studies and took a stance

that the cases studies results are as applicable to other settings similar to the experiments' results are generalised in quantitative research setting. Yin (2013) also notes the importance of analytic generalisation; seeking more abstract level themes from the case studies which can be applied to other settings and contexts. Other researchers such as Bromley (1986) and Gomm, Hammersley, and Foster (2000) have also suggested that analytic generalisation enables other researchers to apply abstract themes from a case study to other research settings.

The current research findings seem applicable to the SMEs recovery after the disaster. This research has provided an emergent theory which delivers a holistic view of how SMES behave in times of crisis which is applicable to other change, disaster or uncertain situation and recovery through these vulnerable times.

### **3.11.3. Dependability**

Dependability is related to the research process; how logical, transparent and well documented it is. This is achieved through methods of triangulation, description of participants and cases. This is also related to the audit trail. An audit trail means that researchers have developed logical linkages between their methods and their findings (Thomas & Magilvy, 2011). Dependability is related to traceability and logical sense-making from the data to the findings.

In this research, a rigorous process was followed. I conducted pilot interviews. Data collection occurred alongside data analysis. There were research meetings with the supervisory team and other prominent researchers in the field of SME recovery to ensure that the research met qualitative standards for analysis and reporting. This process is further documented in this thesis. I used a systematic approach for collecting, analysing and reporting the findings. All of these features have enhanced the research's dependability.

### **3.11.4. Confirmability**

Confirmability is another method used to confirm the quality of qualitative research. It confirms that the findings are directly derived from the data and are not the researcher's imagination. In short, researchers must eliminate self-bias and limit any hidden motives or interests. The measures work together, so through auditing, reflexivity and applicability, researchers can enhance the confirmability.

### **3.12. Conclusion**

The research has been carried out keeping in view the interpretive, subjective approach to data collection and analysis. The aim of the research design was to approach the research question appropriately. The epistemological and ontological choices supported the methodological approaches. Abductive qualitative research was used with the application of grounded theory methods to analyse multiple case studies. The data was collected through semi-structured interviews, company websites and news archives. This triangulation allowed me to establish the quality and rigour of the research. The iterative process of data collection and data analysis provides evidence of a robust research process. The following chapters provide further information about how the interviews were coded and analysed.

This chapter has shown how the findings relate to the data. The theory was developed from the data which was provided by the interview respondents. For example, In Vivo coding was used to remain close to the data. The following chapter provides further detail on how the theory was formulated. Reflexivity also played an important role. Writing analytical memos enabled me to question themes and their definitions. Additionally, the transcripts were analysed by two experts in qualitative research who came to the same conclusions. This provides evidence of correct analysis skills.

## Chapter 4. Initial Analysis

This chapter describes in detail the process followed to develop a tentative framework that was tested and refined subsequently. Initial data collection focused on using the business model canvas (Osterwalder & Pigneur, 2010) as a template for data collection. However, right from the beginning, I employed grounded theory methods of coding and writing reflective memos (Charmaz, 2014; Saldaña, 2015). After the first interview, it became apparent that the business model canvas would be unable to capture the dynamics of the recovery process. Coding and reflective memos after the first three interviews led to identification of common themes (Chapter 4). These were explored further in following six interviews. Thus, the first set of nine interviews led to the development of codes, categories and a tentative framework to explain the factors influencing small business survival and recovery following a disaster (Chapter 5). Later, this tentative framework was tested and refined based on data collection from 23 more cases. This process is described in Chapter 6.

If I had included the first nine interviews in one chapter, this chapter could have been somewhat lengthy as it describes in detail how coding and reflective memos from the first nine cases led to the emergence of a tentative framework to explain the factors that influence the survival and recovery of small businesses after a disaster. Therefore, I decided to divide the initial data collection and analysis in two separate chapters; Chapter 4 and Chapter 5. These chapters provide detailed description which is important as these establish the chain of evidence leading from the data to the framework by using grounded theory methods of coding and memo writing. The current chapter describes the initial understanding of the data.

### 4.1. Initial understanding of the data

CEOs, managers, owners or decision-makers of small and medium enterprises (SMEs) were approached during the initial data collection phase. The screening criterion was that the business was operational before the earthquake so that changes in their practices and approaches toward business could be analysed. Initially, businesses were approached through personal connections. Later in the data collection process a range of different techniques were used to recruit cases; these included the snowball sampling method, calling landline numbers obtained from yellow pages and door-to-door knocking. The first three cases are discussed below.

#### 4.1.1. Interview 01 (company pseudonym: Construction 01)

Construction 01 is a painting, decorating and project management business, based in the construction industry. This was the first interview conducted and the researcher had a set of broad topics related to the business model. The business owner was approached through personal connections and asked whether he was interested in participating in the research. After getting the consent and setting a suitable time, the interview was scheduled. After talking about different aspects of the business model and the survival story, it was assessed that the business grew after the earthquake due to increased demands for these services. The business owner was asked questions related to their business model and whether s/he had made changes to their business model elements following the earthquakes. However, these broad questions elicited a narrative that described the business owner’s experience after the earthquakes.

*Overall business model:* This painting business was established in the early 2000s by a sole proprietor. Interviewing the business owner revealed that the earthquake was not the only event that disrupted the business. From its inception, the business grew (both in terms of customers and employees), until the Global Financial Crisis (GFC) of 2007 – 2008. During this time, the business struggled to find customers as people were not interested in building new houses, renovating and investing in their properties. As a result, the business was forced to scale back, both in terms of employees and services. After the financial crisis, the business expanded again in terms of customers, services and profits and reached the level where the business owner relocated the business from a home garage to a leased facility. The son of the sole proprietor started to get interest in the day to day running of the business and his father gradually gave control to the son, prior to the earthquakes. The business owner (now the son) described it as a painting business. The business owner started to think about expanding it into a project-based construction company. After the earthquakes, the business expanded but its major services remained the same. Table 4-1 shows the changes business went through, focusing specifically on the post-earthquake period.

Elements of business model	Impact	Quotations
Key partners	No changes were discussed by the business owner	
Key activities	Similar but on a larger scale	“We went quite significant changes in terms of the amount of work that was brought to our company because we are in that industry.”
Key resources	No changes	
Value proposition	Remained same, but for commercial audience	

Elements of business model	Impact	Quotations
Customer relationship	Slightly changed (more indirect in-dealing)	“And also the prices, the EQC has been feeding have been higher than what you typically get when direct to a homeowner”
Channels	No changes in the location Marketing was reduced	“We have not had to pay yellow pages to market. We have not had to newspapers ads”
Customer segmentation	Changed from individual customers to quoting to EQC	“That's been the biggest opportunity is getting feed work from EQC during the repair program. Whereas, previously, we have saved on having to market ourselves externally... Because we have been getting feed the work. So, it has changed quite significantly.”
Cost structure	Relatively similar as compared with the demand and prices prevalent	
Revenue stream	Increased*	“EQC has been paying higher pricing. So, it has pushed prices up”

\*Note: it shows demand-based increase.

**Table 4-1: Business model elements: Construction 01**

As seen in Table 4-1, the changes occurred mainly due to changes in demand. The business changed certain elements slightly, but the owner did not overhaul the business model altogether. In short, the major changes were demand-based and focused on customer segmentation. Customer segmentation is basically related to business model elements. Demand is an external factor, which increased in the post-earthquake period.

**Demand-based changes:** There was a huge demand for renovation and construction work. Thus, the company adapted to seize these opportunities. The city council had to make sure that residential and commercial buildings were safe for people to live and work in. Construction businesses and related industries acted quickly to get the jobs done and grow their businesses:

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*“It [business environment] has grown and we have adapted and followed the demand. Follow where the money is coming from.” (Construction 01)*

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Given the wide scale damage caused by the earthquakes, there was a huge demand for construction work. Construction 01 expanded its business operations:

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*“Expanded quite heavily, bought vehicles and different things. So, after the earthquake, we had the opportunity to expand quite significantly.” (Construction 01)*

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**Customer segmentation:** Prior to the earthquakes, Construction 01 dealt directly with customers for painting jobs. After the earthquakes, the owner was dealing with, and providing quotations through The Earthquake Commission (EQC). The business was also placing bids for government contracts. Although the activities were the same, the marketing costs were reduced as the company no longer had to advertise through pamphlets and brochures. The target market changed from individual homeowners to working for a government organisation:

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*“So our main client is essentially EQC. They feed us work and part of that is then homeowners. So, they will basically send us a job.” (Construction 01)*

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The business needed to change its market segmentation because there was no other way for it to recover in this new environment. There was less demand for private work because every homeowner who required renovation work, had an earthquake claim. It was difficult for the business to merely rely on the usual, private renovations or installations work. Therefore, the business owner shifted from individual work to the commercial work:

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*“It [earthquake] has reduced the demand for private firm engagement with private clients. Because their houses are getting repaired by EQC. They are effectively getting the renovation on their homes. Now, it’s meaning that they don’t need renovating for another five or ten years. So, what it has done is we are getting fed work by EQC but there is not a lot of private work.” (Construction 01)*

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The first interview revealed that understanding the effects of the new environment in the recovery of the SMEs was a significant factor. This was not anticipated by the researcher prior to the interview. A common understanding is that most SMEs operate in close proximity to their physical location i.e. they draw most of their customers from the surrounding area. To understand how businesses can recover from events like the Christchurch earthquakes, it is necessary to explore more than just the elements of the business model. It requires extensive investigation of the impacts of demand, relocation and other operational concerns. Following the first interview, the researcher started writing reflective memos after each interview (Saldaña, 2015). Sections from reflective memos are shown below to illustrate the process of arriving at categories and eventually forming themes.

### **Reflective memo 1:**

“The business changes were mainly demand-based. The business owner started work on government contracts. They were dealing directly with customers before the earthquakes but seeing an opportunity, changed the business so that they dealt with the government. They kept the other business elements more or less the same. This raises questions about the factors, other than business model elements, which influence the post-disaster recovery of businesses. What is the role of being in an industry that provides a lot of opportunities to expand? It seems the business owner [decision maker] was playing a role in deciding the fate of the business.”

### **Reflective memo 2:**

“During the interview and analysing it afterwards, I started to think about what role demand plays in changing a business model. Is the nature of the business the reason why some businesses were successful while others were not? What other business model aspects help businesses to succeed?”

### **Reflective memo 3:**

“There might be other events prior to the earthquakes which have impacted on the business. For example, was there a history of changes and adapting to the situation? i.e. any other event might prove a learning point for the business. In this case, the business experienced the financial recession. Was there any learning from the previous experiences which helped the business recover the aftermath of the earthquakes? Considering the age of the business, maybe there are experience related aspects that business owners utilised after experiencing the earthquake.”

It became obvious after the first interview that were significant themes related to recovery that were not reflected in the elements of the business model canvas. Six such themes were initially identified through coding and writing reflective memos. These are discussed below:

1. The earthquakes required business owner to make strategic decisions. The business owner exhibited the ability to handle disaster mainly because he had already faced a major disruption to his business; that is, the Global Financial Crisis (GFC) of 2007-2008. The business owner learnt new business strategies as a result of the recession. He replicated earlier learning strategically to reduce the impact of the earthquakes. While the outcome for the business of these two disruptions was different, the experience of surviving during the recession helped him to make strategic decisions in the wake of the earthquakes. The business owner illustrated his ability to act strategically in terms of hiring new staff members, expanding and diversifying his services. In this particular example, the business owner is keeping a close eye on costs and maintaining adequate staff levels:

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*“We had a policy where if there was no work, then we would not have to pay them. So, like if there is snow. So, if it snows and workplace can’t be accessed then we have, in our contracts, where we don’t have to pay their wages. And because otherwise, it would have crippled our business if we needed to pay them. So during that time they took annual leave. They used their annual leave, when there was no work physically because most buildings could not be accessed and stuff. And then the work came about. They were able to come back on staff.”*

*(Construction 01)*

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Running a business successfully requires making conscious and informed decisions. Prior to the earthquakes, this business owner strategically managed various aspects of business operations, such as keeping a close eye on costs to ensure that his business remained financially viable. The business offered employees and subcontractors flexi-work contracts. This allowed the business flexibility which enabled them to plan and maintain costs.

**2. ‘Opportunity seeking/seizing it’** was evident. The construction sector experienced a rapid increase in demand. This created an influx of projects that the businesses could tap into. The business owner quickly realised the opportunity for expansion and acted on it. Although the business was previously dealing with private contracts, after the earthquakes the business owner tapped into commercial/government projects. The owner’s ability to adapt and take on new opportunities directly contributed to the business’ growth trajectory.

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*“The earthquake brought about a lot of work. And so the earthquake had a few weeks where there was not much of work and then there was heaps of work.”*

*(Construction 01)*

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**3.** In short, the business was **adaptive**. During the financial recession, the owner scaled back on staff members to ensure they remain financially viable. In contrast, after the earthquakes, the business expanded. This business was adaptive and flexible enough to compensate for external challenges. As the business owner stated:

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*“We will probably look to adapt, we will have to adapt. So, some overhead expenses will have to call back. And some vehicles we have already sold.”*

*(Construction 01)*

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The business owner was reasonably adaptive when it came to making changes to his business, by maintaining business practices, the business owner was able to contract or expand as needed (during the financial recession and post-earthquakes). As the quotation above suggests, several years after the earthquakes, the business owner is now thinking about reduce the size of the business size to account for the new post-rebuild and restructure of the city. This shows that the business owner has built the capacity to change his business practices. The business owner is also aware of the ever-changing environment and the need to constantly adapt i.e. if the business slows down, he will have to adapt again.

**4. Clear communication with employees** was essential for maintaining adequate staffing levels in the post-disaster phase, which required flexi-contracts. Therefore, the business owner kept a constant flow of information with the contracts and employees to cater the flexi-work routine. Communication was a crucial part of overall business management. As indicated previously, when there was no work, staff members took annual leave. The constant flow of communication was ensured, as the business owner mentioned:

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*“So we just communicated very closely, through text messages and phone call.”*

*(Construction 01)*

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**5. Learning how to complete specific paperwork and laws** related to employment was a major activity after the earthquakes. The health and safety regulations increased and became stricter; therefore, the business owner had to fill in a lot more paperwork for each job. This is what the business owner acknowledged that he had to learn after the earthquake;

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*“We had to learn employment law and be very good at hiring and firing. So, in the past, you did not have a lot of employee turnover but during these last few years.*

*There has been an incredible turnover. Lots of people coming and going.”*

*(Construction 01)*

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**6. Overall the business owner's approach towards** running the business and adjusting to the new environment was positive. This was reflected by the progressive approach towards tapping into new opportunities in a challenging business environment. While making careful decisions, the business owner kept the business intact and remained financially viable.

After the first interview, the researcher decided to explore the themes identified above, in addition to the business model elements.

#### **4.1.2. Interview 02 (company pseudonym: Retailer 01)**

This is a family-owned jewellery business which was located in the Central Business District (CBD) for 50 years. This business was also approached using personal connections for data collection. It was a two-and-a-half-hours long interview. The business owner specifically mentioned how the business had been prior to the earthquake, the changes he made and the challenges of running a jewellery business in the post-disaster context. The building where the business was previously located was significantly damaged. After the earthquakes, the business needed new premises. The customer footfall was reduced as a result of the change in location. The following section provides an overview of the business model.

*Overall business model:* The jewellery business was started by the parents of the current business owner. The business deals in selling and repairing jewellery. Another aspect is that the business also makes customized jewellery for customers if required. A prominent feature of their business is buying and selling vintage jewellery. The business owner does a yearly analysis of sales, which can be divided into different segments; for example, vintage and branded jewellery. Based on this analysis, a plan of action is devised for the following year. When the business was first established it was part of an industry group. The father of the business owner was the founding member of that group. The benefits of joining this group was collective marketing, a greater ability to negotiate prices with the suppliers and the ability to keep similar catalogues. When the present business owner joined the business, he left the group to save on industry group membership fees. However, he kept the same level of relationship with the suppliers to get the best deals on supplies.

The business model had two lines for supply of their material; from the set suppliers and the customers wanting to sell the vintage jewellery. The customers were mainly working women. The customer relationship was not a one-time, transactional relationship. The business owner tried to build good customer relations (through compensating them fairly) in the hopes of retaining the customers. The earthquake was challenging for the business. After the earthquake, the business tried

to cope with its damaged building, a loss of customer footfall, immediately securing materials/goods which were worth thousands of dollars and dealing with the insurance claim. The business owner faced a tough time yet recovered. Table 4-2 shows changes in the business model.

Elements of business model	Impact	Quotations
Key partners	Remained unchanged	
Key activities	Remained unchanged	
Key resources	Remained unchanged	
Value proposition	Remained unchanged	
Customer relationships	Became stronger	“Most of our customers tend to be I suppose, having disposable income. As opposed to those who are more sort of price driven, who perhaps do not have such available income and would look for finances or pay things off from their probably through the [narrowing] sort of, always been that way. Customers tend to have disposable income. So, prior customers were more price driven.”
Channels	More focus on online marketing Relocated	“it [current location] was not the ideal location that I would have picked prior to the earthquakes but it was available. Things are being relatively good here.”
Customer segmentation	Remained unchanged	
Cost structure	Remained unchanged	
Revenue stream	Remained unchanged	

**Table 4-2: Business model elements: Retailer 01**

The owner did not change the business model altogether. Only a few of the aspects were altered due to the earthquake. The business was relocated for some time and then returned closer to the CBD. In the post-earthquake environment, the business owner made changes to the ‘channel’ element of the business model i.e., how the business owner physically located his business, approached customers and communicated with them.

**Immediately relocating:** The building in which the business was operating was irrevocably damaged. All the expensive jewellery and material was buried in the dust and debris. The business owner could not leave the material like that; therefore, he cleared everything from the shop and stored it in his home garage. Within the next day or two, he reopened the business from his garage.

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*“After the February quake, after we went in temporary site for a while, we then operated in my garage at home at Burnwood so customers had a place they could come to if they wanted to get a piece of jewellery sized or altered or if they wanted to come and buy something we can then have specific ranges on view for them.” (Retailer 01)*

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The business owner had to divert his business phone numbers to his home landline number. But he did not heavily advertise his location and that he was operating from his home garage to avoid any burglary or other security risks. The business owner utilised the garage of his house to store all the expensive material from his shop. He had to keep his business' new location a secret as there were security risks involved storing all his stock and material in his garage. He was also concerned about his family's safety.

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*"it was basically, I should say, a temporary shop with sort of showcases and we bought a few relatively new expensive showcases. And the idea was there was a temporary site on sort of a short-term lease till we worked out to go back where we were before." (Retailer 01)*

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After some time, when the owner found a commercial shop he relocated there and recommenced normal operations. The business owner also started to pay more attention to his website and online trading. The earthquake was a trigger point for this change;

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*"People tend to do a lot of their research on the phone before they leave home. And find out who is worthwhile going to and obviously, they get an impression from the website and that of whether they would like to go. So, regardless of the earthquakes, I think the environment has changed quite a lot just in the way of how you are marketing to and where they go for their information. And obviously, as each generation progresses and you are more used to that information being out there and in the palms of their hands. Then it does change the way you sort of got to market and how do you get your message across. [It was important for us] How do we put out to these people that these are the products we have and if you come and see us this is what you can expect to receive from us, customer service." (Retailer 01)*

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**Customer relationship:** The customer relationship was good, prior to the earthquakes, because the business owner tried to provide best services to the customers, even if he had to go beyond the set service criteria. The relationship got stronger after the earthquake as the business owner went to customers' houses to deliver the required piece of jewellery or take orders for customised pieces. This created a strong bond, which has continued to grow.

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*"I might go to my suppliers, manufacturing jewellers to see what they had. And I would go out to people's houses to see them and do personal visits to people so we were a lot more flexible in how the business ran... there were a number of things but there was a really strong sort of loyalty amongst the customer who said they would continue to come to us regardless of where they were." (Retailer 01)*

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The second interview also revealed that there were several aspects, beyond business model elements, which kept the business owners motivated to continue the business. The following section from a reflective memo written after the second interview illustrates some of the issues:

**Reflective memo:**

"This is a family-owned business. The business owner took over from his parents. He mentioned that being a family business and having a strong financial background had saved the business. He stated, "You know being a sort of family-owned business, my parents had it for a number of years they were financially relatively secure and stable. So they were able to keep things going and pay the bills sort of speak until we started to get the money through from the insurance company." One observation was made and needed more exploration. Does being a family business help in the recovery of the business? I think financially strong businesses will have a greater chance of recovery as in the difficult times, they do not need to solely rely on their weekly/monthly profits to run their households. Because they have financial strength, they can wait and contemplate the market trends. Then, another question is raised i.e. does this financial security give a psychological advantage while dealing with other aspects of the business, such as relocation, dealing with insurance claims and deciding about keeping employees? This business owner had to struggle through insurance claims and work. But the owner kept the operational work running and did not wait for the insurance claim to be settled. His insurance took a few years to settle. What if, in a different scenario where the business did not have financial backup; would it be viable for the business to recover in the post disaster environment? What are the other factors contributing to small businesses' recovery?"

Additionally, the business owner mentioned industry groups and utilising already established industry connections, even though he was not part of the industry group (prior to the earthquakes). This made me think about two things. First, how reliable these industry connections are in times of crisis. Second, this business is just an example. If some business is not part of an industry group, is there still some connection which the business can utilise in a crisis?"

Further analysis of the transcript brought many other aspects to researcher's attention. The changes the business owner described were just minor alterations of the original business model. But what was intriguing was the way that the owner approached the problems and re-established the business in the post-earthquake environment. This led the researcher to the conclusion that there were more factors that needed to be considered than just the elements of a business model. They include being strategic (before the earthquake), sharing a location temporarily with another business, the earthquakes triggering a change in the owners' thinking, risk taking, utilising prior connections, new learning, and developing readiness after the earthquakes. The following five aspects were identified after the second interview:

1. The business owner took some strategic steps even before the earthquakes such as yearly profitability reviews and obtaining regular customer feedback. Through the yearly reviews of their financial statements, the business owner decided to focus on their vintage jewellery product-line. It was intriguing that the business owner emphasised the importance of customer feedback for improving their services and operations. Prior to data collection, the researcher assumed that local or small businesses would not consider or focus on the strategic elements of running a business. However, after analysing this interview, the researcher realised that these assumptions might not be valid. The business owner clearly communicated that being strategic and analysing the situation is important in general business setup.

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*"Just doing yearly review and looking down basically the excel sheets from the year and everything we have in stock is broken into different departments. And we can compare department by department of how much stock we have got and what sales had from that department what stock was in the beginning of the year, what stock at the end of the year. And there is all sort of profitability, factors that are shown in there, of whatever our return on investment is. What our mark-up is across that department and our sort of vintage area was our best performing area." (Retailer 01)*

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2. Another unique aspect that emerged from the transcript is that the business owner utilised his own personal resources to ensure that the business recovered. He used his home garage to store his materials and goods for a short period of time. Generally, small business owners have a unique association with their businesses. They have heavily invested in their businesses that they want to continuation of their businesses. An additional reason might be that they do not see their business

assets or activities as separate from their own personal resources. This aspect needed further exploration in further data collection.

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*"I did not see it as a permanent solution, that was sort of a temporary solution that we are not doing a lot operating out of my garage at home." (Retailer 01)*

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3. Sometime later, the business owner was able to share premises with another business which enabled them to return to their normal activities. This is another avenue he explored after utilising his personal home garage as a resort to store his products and material. The business owner acknowledged that the other business offered him the space to share because he had a prior connection with the company while his business was part of the industry group. Therefore, capitalising on existing connections emerged as a key idea; the researcher planned to investigate this aspect further.

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*"[We] went into a shared space with [an antique company] ... We had a relationship with them prior to earthquakes as part of real fitted loans on jewellery and previous to antique options." (Retailer 01)*

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4. The September 2010 earthquake was a trigger point for the business owner to examine his business activities from a different perspective. He mentioned that, post-earthquake the focus has changed towards using technology to improve communication with his customers. More specifically, this meant improving his website and developing a Facebook page. Although the business owner knew the importance of technology and its utility prior to the series of earthquakes, he expanded his use of IT after the earthquakes. Bowden et al. (2001) has emphasised that many of the business activities need to be completed using the internet or electronically (adopting e-business model). Prior to the earthquakes, many of the businesses were not equipped to complete such transactions or avoided using electronic technology, however this changed after the earthquakes, when many were more receptive to these methods. The interviewed businesses were more inclined to adopt technology and use online advertising and selling.
5. Adaptability and future readiness also emerged as significant aspects in the interview. The business owner kept the business flexible enough to keep up with the changes in the locality. The business experimented with different locations. Acting promptly and quick decision making also helped the business to deal with the challenges in the initial days after the disaster.

The business owner also felt ready to face any other uncertain situations. He explained that, even though the earthquakes were an unexpected occurrence, his business was able to recover. He stated that he felt more prepared after going through the disaster and felt ready to face any other disasters.

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*“I would be far more prepared to deal with that again, like anything if you, you know since the earthquakes... Now having gone through what I have gone through before and having dealt with it obviously you have experience that you have learned from it, then you would be far more comfortable doing it again and potentially make better decisions along the way because of previous knowledge and experience, but would I want to go through it again, NO... I think I would be far better equipped to go and deal with that again.” (Retailer 01)*

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Summarising the second interview, some unique aspects emerged such as adaptability, and utilising existing networks. All these new aspects, combined with factors from the previous interview, provided the grounds for further investigations in the data collection. As a result of these initial interviews, the researcher formulated some new questions that might help obtain in depth data which might explain the recovery of businesses. The researcher decided to expand the study’s scope beyond the business model canvas. In essence, the findings thus far suggest that changing an element or elements of a business model, cannot fully explain why some businesses recovered while others did not. It is also necessary to understand the underlying rationale of recovery of the small businesses through analysing the experiences of the business owners.

#### **4.1.3. Interview 03 (company pseudonym: Retailer 02)**

Retailer 02 was referred to the researcher by one of the businesses which participated in the research. Through the snowballing technique, the business was approached through email, then followed up by a phone call and the business owner agreed to participate in the research. This was operated by brothers, therefore, it was considered a family-run photography business, whose premises in the CBD was damaged during the earthquakes. The business needed to relocate and ensure that the new location was safe and secure. The personal challenges that the business owner faced, in the aftermath of the earthquakes, seemed to have restricted the business owner’s ability to fully concentrate on his business.

*Overall business model:* The business mainly provides photography services such as pictures for documentation or passport purposes. The business also sells and repairs cameras and accessories. Film processing is another business unit. The main customers for camera repairs were tourists. After the earthquakes, the business was relocated to a shop which did not have a convenient parking facility. Therefore, the footfall of tourists and passing by customers reduced significantly. Table 4-3 shows the major changes brought into the business model in the post-disaster context.

Business model elements	Impact	Quotations
Key partners	Remained unchanged	
Key activities	Remained unchanged	
Key resources	Remained unchanged	
Value proposition	Remained unchanged	
Customer relationship	Remained unchanged	
Channels	More focus on online marketing Relocated	“This area, again the same thing, when we first moved here, there was a reasonable amount of pedestrian traffic. There used to be a bank across the road. They moved out from this side. So, now that building is occupied by engineers, complete building. So all these engineers are doing is they are occupying the building and their staff are occupying all the car parks around this area.”
Customer segmentation	Changed from mainly tourists to new mothers (for photos of their children)	“We also used to get quite a lot of tourists coming in. tourists coming in with a camera or something. If they don’t have a battery charger or something. So used to get quite a bit of [footfall]. This is what we are missing here. There are no places for tourists to stay in this area.” “[Now] we do lots of baby and children photographs and nobody is interested in that because it is very hard. So, all these young moms when they get good service from us they will go and talk to the other moms”
Cost structure	Remain unchanged	
Revenue stream	Remain unchanged	

**Table 4-3: Elements of the business model: Retailer 02**

After the third interview, the researcher started to realise that the businesses did not overhaul their business models in order to recover after the earthquakes. The business owner of Retailer 02 made changes to ‘customer segmentation’ and ‘channels’ of the business model elements.

**Customer segmentation:** Prior to the earthquakes, the customers were mainly tourists visiting and staying in the CBD who would visit the shop to buy camera accessories and to have broken cameras repaired. After the earthquakes, foot traffic drastically reduced as a result of a change in premises. The business owner then shifted his focus to a different target segment. This business focused on young mothers who had difficulty taking their children’s pictures mainly for documentation (visa and passport) purposes.

**Channels:** The damage to the original location required the owner to move the business to another location. He also mentioned that although the business was still operational, the business had not reached a stable state because of construction work and a lack of parking in the new location. While experiencing struggles associated with the relocation, the owner was also dealing with personal issues like sorting his own house insurance claim and finding a new place to stay. The business owner's priority was to keep his family safe and then he decided to change his business' location. This meant that he had to close his business for two weeks. The business owner believed that the new location would be a temporary move, but after almost seven years into the recovery, the business is still operating from the same (temporary) location.

The next few paragraphs elaborate the business owner's experience of running family-owned business and his approach to business more generally. As briefly noted, the business owner faced significant challenges related to his insurance claims, disruptions to his business due to roadworks, issues with inaccessibility to the premises and a notable decline in foot traffic. These challenges are discussed in detail in the following paragraphs:

1. The business was family-owned which meant that the business owner was able to use family savings and resources to be able to recover in an uncertain environment. In the post-earthquake period, the brothers had to work else to earn money for the family and for the business. According to him, if it was not for the family business, the business might not have recovered. The owner acknowledged the family support.

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*"if it was not a family business, because we are family business, we can't do without them." (Retailer 02)*

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2. The owner's philosophy to deal with the post disaster situation was strategically irrational. The business owner was unconcerned about planning. According to him, planning on paper was impractical, especially, in the wake of the earthquakes. His philosophy was to run his business as usual. He mentioned that the business would run at its own pace and his planning has no control over how the business would perform in the future. In his view, planning was not necessary because it would not add any value to the business:

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*"Proper plan does not make any sense. Nobody has got a proper plan. In this area. Because things have changed so dramatically, that plan is just piece of*

*paper. As I said, I just go with the flow. In summary, I feel, do you understand hindi? 'muddai lakh bura chahe kia hota hy, wohi hota hy jou manzoore khuda hota hy'. That's it [English Translation: Even if people speak ill of you and wish for bad things to happen to you, only that will happen which the God has in store for you]."* (Retailer 02)

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3. The insurance settlement was not finalised until seven years into the recovery process which was frustrating for the business owner. It added to business owner's pressure, because he had to deal with family/personal as well as business-related challenges. The owner's home was also damaged and declared red-zoned which increased his personal stress.

*"There was constant thing, battling the insurance companies to try and get the money from them. Get all the full insurance and everything. The insurance was not paying so it was ongoing battle all the time. So, because there was not cash flow."* (Retailer 02)

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This psychological pressure therefore limited the business owner's ability to perform at an optimal level. The business owner was dissatisfied with how the insurance company dealt with the people's claims, in general. According to him, it was not only his business but many others who were unsatisfied with their insurance claim settlements. Additionally, due to the financial pressure he was under, he was also critical about how the government and council supported small businesses. He stated that the government personnel and council representative gave false hopes to the community and withheld the true situation.

*"The tourists will come in ten years' time. The basic problem with Christchurch is that immediately after the earthquake all the govts and councils and so on they promised so many things. And it is all propaganda. That there is no money there. It is all talk. And from day one they have been saying that there will be 20 years before Christchurch will get anywhere near to where it was previously."* (Retailer 02)

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4. Another reason for the business owner's dissatisfaction was road closures in the CBD and adjacent areas which resulted into poor parking facilities in the new business location. Business accessibility was compromised and it impacted on customer numbers, which decreased. In addition, the construction work increased the number of engineers and workers in the area. These individuals were not typical customers and instead, used the few available parking spaces. The business owner saw this as a major concern.

During analysis of the third interview, there were many questions and thoughts which surfaced as noted in the following reflective memos. At this point, the researcher compared the cases to find commonalities and differences between them to gain a better understanding of the post-disaster environment for small businesses. Sections from reflective memos written after the third interview are shown below:

**Reflective memo 1:**

"The business model was the same; there were no major changes. The location changed and had a devastating impact on the business as the footfall was reduced. The business owner did very little reduce the impact. The business owner was of the view that it was a waste of time worry about things that are not in his control which is why he does not believe in planning. But at the same time, he was very worried about the things that were happening in the surrounding area. For example, the business location had changed and he had to move to a place that did not have much foot traffic. The footfall was not enough to keep the business going so he had to live on his own money. The fact that the business owner was unable to change according to the environment and left everything unplanned was the cause of the business not reaching the same level of profit prior to the earthquake. Even the prior business model seemed very stagnant. This can be seen by the business owner's approach to not thinking too much about the future or planning. This led me to think that earthquake-like events definitely impact businesses but the one thing which is necessary for the business to grow how business owners perceive the challenges they are facing. There are things which are not in the owner's control, but they should be in control of planning or making about contingency plans. The business owner is also in control of how hard to they work. After analysing this interview, I felt like the business owner tried to blame the negative outcome on external factors, rather than analysing where he could have gone wrong."

**Reflective memo 2:**

"Analysing the interview even further, raised some issues, which need to be addressed. First the connection of the business owner. How much does the business owner play a role in defining the success of the business? Small business owners are the key defining force, their own self-interest, philosophy to face challenges and moving

ahead. There is another possibility: Businesses who were ready prior to the earthquake, returned to stability quicker than the ones who were not. I need to collect more data to see whether this is the case. Maybe, complacency has some aspects to play in whether a firm recovers or not.”

Compared to the two previous interviews, I realised that this was also a family-run business; in this case (Retailer 02), it was run by brothers. They work together and sometimes the businesses owner and his brothers have to work part-time to support the business itself. The business owner acknowledged that the business would not have recovered if it was not a family business. During the most difficult times, they reduced their business and personal expenditure. The business owner found it difficult to return to previous situation in terms of profitability and customer numbers, after the earthquakes. However, the major difference between previous interviews and the current one is that the business owner was more critical about the events which followed the earthquakes. He was dissatisfied with the relative lack of government support. The interview was an hour long. For most of this time, the business owner talked about the struggles and challenges he had faced. The business owner blamed the government, councils and insurance companies for the subsequent problems with his business. He even criticised the rebuilding work because it reduced the foot traffic to his business. In short, Retailer 02 had a different approach to dealing with the aftermath of the earthquakes, compared to the previous businesses. The next section examines the emerging aspects from the three interviews.

## **4.2. Summary**

These initial three interviews enabled to identify the emerging aspects in this research. The business model canvas elements were insignificant in the recovery process of these businesses. The aspects which emerged were:

1. Owners’ ability to strategically understand the situation and take informed decisions.
2. The earthquakes were triggering points, the owners tried to seize the opportunities which these series of earthquakes had presented.
3. In order to seize the opportunity, the business owners needed to adaptive capacity and a positive mind-set.
4. Business owners’ philosophy and approach to run the business was very crucial in the recovery process.
5. Learning and having flexibility in the business systems were also emergent in the interviews.

6. To recover business owners also utilised the support and help available to them. It was in form of using family savings, utilising their personal resources or sharing premises with other businesses.

Chapter 5 describes the further six interviews which led to initial framework. Later in the research this model was tested, verified and modified based on the further interviews.

## Chapter 5. Emerging Aspects and Initial Model

This chapter proceeded with the analysis of further six interviews in initial data collection phase and understood the emergent themes in depth. This chapter first analysed the interviews based on the elements of business model canvas and then dissected the interviews one by one, through line-by-line coding and reflective memos, to formulate the initial model.

### 5.1. Emerging aspects

The section provided an overview of the changes business owners went through in their business model canvas elements. In these interviews, I not only asked questions about their business model elements but also about emerging aspects. Table 5-1 shows changes in the business model elements for the remainder of the six cases in the initial data collection phase.

Elements of business model	Interview 04	Interview 05	Interview 06	Interview 07	Interview 08	Interview 09
Company Pseudonym	Edu 01	B2B 03	B2B 01	B2B 02	Consultant 01	Retailer 03
Key partners			Ownership structure changed	Relationship became stronger		
Key activities				The focus was changed a little for the time being	The focus was changed a little, the scope of the business widened	
Key resources			A new factory was built			
Value proposition	Added courses					
Customer relationship						
Channels	Relocated	Marketing: started going door to door for promotion			More IT-focused	Relocated
Customer segmentation		Segmentation: locality wise (enhanced)		Added some segments and reverted to normal		
Cost structure						
Revenue Stream					Increased for the time being and returned to a normal level after a few years	

Table 5-1: Business model elements (Interviews 04 – 09)

These six interviews were conducted and followed a similar pattern as the previous three. As shown in Table 5-1, there were no major or significant changes in the remaining business models in the post-earthquake context. The most prominent change related to the ‘channels.’ This is like the three initial interviews where business owners discussed changes to their ‘channels.’ The ‘cost structure’ and ‘customer relationship’ were not mentioned in any of the later interviews. I could understand reasons behind keeping their cost structures confidential but the questions asked were simply about changes to business cost structures not actual amounts. It is clear from the interview that costs were not greatly affected and products offered remained largely the same. Interviewees also spent very little time discussing the ‘customer relationship’ element. All the businesses noted the importance of foot traffic. They were content with business performance as long as they were seizing benefits related to the flow of customers. The business owners did not look beyond or go to additional lengths to create a relationship with their customers.

The initial data collection phase has revealed that business models did not play a significant role in business recovery after the disaster. Other aspects enabled business owners to achieve their desired levels of business after the disaster; these include, the business owners’ approach to business, adaptability and utilising their own personal resources. These aspects can be seen in interview four which was checked for commonalities with the other interviews to create an initial model.

### 5.1.1. Interview 04 (company pseudonym: Edu 01)

Table 5-2 shows emerging aspects in the data beyond the elements of the business model canvas. Interview 04 was conducted with the manager of a tertiary education institute. Prior to the earthquakes, the business owner was in the initial stages of business growth; there were a lot of students from India and China coming to study in New Zealand. This changed suddenly due to the earthquakes. It became challenging for the institute to attract new students. Table 5-2 shows the coding for the emerging aspects identified in the transcript.

Quotations	Initial coding
“The interest in this business has decreased a lot.” (Edu 01)	Interest of the business owner
“There was common support in Christchurch and by that, we were able to cover the major portion of the loss. Government support actually saved the Christchurch campus” (Edu 01)	Government support
“Running a business in NZ is a very complicated job. There are compliances, paperwork. Which is too much and does not let you focus on your own work.” (Edu 01)	Interest of the owner, Complicated job
“But now in future, the rules are too strict we cannot plan ahead. No growth, we cannot plan about that due to unstable policies. There is a fear of the	Perception of external unstable policies

Quotations	Initial coding
changes coming up. If there is strict policies for some institute, we can be the next one, no one knows.” (Edu 01)	
“We shared our building for temporarily time with an institute in the central city. We had that for a while like 2 years. 2012-13 we shared that. Not initially but later we used to share the rent. That institute has some extra space, they had an opportunity to earn extra from our rent.” (Edu 01)	Sharing the building

**Table 5-2: Initial codes: Edu 01**

Due to the unstable external environment, the interest of the business owner was reduced in effective management of the institution. The themes that emerged in this case was how they needed to share premises with another institute, most probably a competitor. This was a trend that was seen in other cases, where businesses acquired support neighbouring businesses or businesses in the same industry as well as the government. Reflective memos written after this interview illustrate the emerging themes:

**Reflective memo 1:**

“The overall business model did not change but they had to relocate to another building. People’s perceptions of Christchurch changed; the business owner said, “...at the time of earthquake they were saying that there is nothing left in Christchurch. There is just a forest and things like that” which meant that students were too scared to come to Christchurch and meant that the student number declined and the business experienced a downfall. The business owner decided to add more courses to attract a more diverse range of students. The value proposition remained more or less the same, after introducing the courses, which was providing quality education and producing an educated workforce for the country. The major point of discussion is the business owner’s interest. After the downfall, the business owner did not have the same interest to move ahead with a similar business. As there were a lot of rules and regulations to follow the business owner felt it was a good to switch businesses. He felt that the government’s rules and regulations were getting too strict for an institution like this. Therefore, I can see, no matter how much there is an abundance or scarcity of resources and opportunities, if the business owner does not wish to carry on with the business, the business is not going to go forward. In short, interest defines an owner’s involvement in their business.”

**Reflective memo 2:**

“The business owner had just started the business before the earthquake. But after the earthquake, his interest suddenly decreased. There were many external factors, such as government policy changes. It seemed to me that the business owner did not have that much attachment to his business. If the business had been older (prior to the earthquake), maybe the business owner would have been more engaged. This is just my perspective. On the determination scale, I would rate the business very low, as

the business owner appeared to put in very little effort to ensure that the business kept running.”

Comparing emergent aspects in the previous interviews (Chapter 4) with interview 04, it became apparent that business owners’ approach was prominent in the recovery of businesses, it could be either positive (Construction 01, Retailer 01) or negative (Retailer 02, Edu 01) depending on owners’ philosophies and approach to handle uncertain situations. Secondly, the impact of external forces on the business operations such as government policies, road works and depopulation also emerged. Another aspect, identified in the interviews, was capitalising on help and support offered by neighbours, the government or other companies. This was evident that the connections and networks helped the businesses to recover the aftermath of the earthquakes. Keeping these aspects in mind, I approached the next business for an interview.

### 5.1.2. Interview 05 (company pseudonym: B2B 03)

The next interview was conducted with an owner running a B2B business. Prior to the earthquakes, this business made a variety of uniforms (for school children, clerical and office staff and chefs). Table 5-3 shows the aspects that the business owner emphasised.

Quotations	Initial coding
“[right after the earthquake] my son, he said, I will go back in and grab the hard drive in our computer and I said I will go back and get the ladies' handbags and cell phones. So in between shakes and we just ran in. I went upstairs grabbed what I could and what we knew was there. My son did just pull the computer and grabbed the laptop or the hard drive I should say. and we were outside again so the lady was given the handbags, we had the hard drive.” (B2B 03)	Acting quickly, Immediately taking actions, taking care of the employees
“The hard drive was our whole business. All our accounting was in there or our database for the customers. It was all there. Without that we would be stretching our head and saying now what? so the moment we plugged that in, got it working, we could then send an email out to 270 customers or whatever it was and saying hi, we are back on line. So that was the core. Plus, we had our accounting so we could still bill people to the day and get the money coming back in too.” (B2B 03)	Importance of data, communication with the stakeholders, Immediately keeping the business activities running
“So we set that in our games room out here at home. So with those laptops and screens and so forth. And we were up and running virtually in two days again. Communicating with our customers. So that was a big thing” (B2B 03)	Utilising personal resources, Adapting to the circumstances
“It was a spare room. Set it up and we were setting it up from the ground up, so definitely there was a lot, we went to buy new shelves and shelving that fitted in” (B2B 03)	Quickly setting up
“And the other thing, what we had have too at home here was a copy of all that patterns but jacket patterns and pants so I got them and all recut at the company out of Lincoln who specialises in cutting patterns. They are located next door or very closed to Lincoln College. So, the ladies out there are very good. They were Dutch people and NZ industry so they cut us all new patterns and that was over a period of three weeks” (B2B 03)	Organising resources quickly, Utilising already built connections

Quotations	Initial coding
"We had the hard drive, so we were talking to probably four days later from our game room out there. We set that all up there and we bought shelves. The hard drive was our whole business." (B2B 03)	Organising resources quickly
"The customer side of communication was also kept running. It was really important to let them know that the business was still in the business." (B2B 03)	Communication flow for the customers
"And in the mean time we were just keeping in contact with our customers and we sold a lot of like wee other product like we bought in suits and jackets and suits and so forth all the front of office or bar trade industry, we could still supply all that" (B2B 03)	Communication flow for the customers
"Our daughter also, she had just come home from UK. And she sort of caught us behind us all and sort of worked out a plan and how we were going to take" (B2B 03)	Family support
"Had another very good friend who is very good at sighting, and he used to be a very good mentor to us too. In planning and where we are going to go and how we are going to do that." (B2B 03)	Friend helped
"Another friend said he has got a warehouse at Hornby. And he said that they used the warehouse but they did not use the office block sort of speak within. It was small but it was two storeyed. He said that use that. And it is exactly what we did. We went out there and they put carpet on the floor for us and all sort of things" (B2B 03)	Friend helped
"He operates a big real estate business. He had a lot of skills. We spent time in the game rooms out there and he just said right, what we got to do? you know, worked on the charts on the wall and advertising thing, we are going to let people know, that customer contact, [suggested my son] you do this, I am doing that, my [owner's] wife was doing out door, it was just like lets go and it and then come back and we were just tackling the bites of it all the time sort of thing and when you do that, it is just like anything, if you plan you can achieve, can't you? Even though how smaller it might be." (B2B 03)	Friend's support, Planning and acting quickly, Smaller steps taken
"Mentoring side from our friend. Because he was at our side. Every week you know. Just nourished us through the stages of... and keep us stay focused." (B2B 03)	Friend's mentoring
"Without him, I would say we probably would have gone out of the business. The amount was just too high to handle. But the in small doses, and it really worked. And you just have to stay positive. It is always like that." (B2B 03)	Huge role of friends and family in the recovery, Staying positive, Small steps to recovery/survival
"We were very fortunate to have good people around us really." (B2B 03)	Capitalising on connections
"We went out there and they [friends] put carpet on the floor for us and all sort of things. We bought shelves and put stock in it. At that point like we were getting the pattern. The patterns were getting made and we were starting to set a like an old table and block for cutting table, settled that up. In the meantime, 6 or 8 workers we had, our workers working for us and cutting what we could. That sort of just kept the things ticking over on the manufacturing side." (B2B 03)	Recovery quickly, Coming back to the routine activities quickly
"Then once we got step out there my son and I hit the road, he did South Island and I did the North Island. And flew to Auckland and came down to Hamilton, Napier and just call on the sort of agents that sold for us. You know like say, the big hospitality suppliers really of hardware, they sold clothing for us too. So, yeah we called on all those sorts of people that the agents we had here and there just to say hi we are still in business, we are here to help. Help to serve yourselves. That definitely sort of it was good from communication point of view, they could see we were trying and they would sort of stick to our business. Because there were competitive businesses as well." (B2B 03)	Exploring other areas, network of agents, Communicating about availability
"Because we could not go back to our old building for 7 or 8 weeks. We could not get in there. Because we thought we will retrieve some equipment and so	Quick action, decisions to get the material out

Quotations	Initial coding
forth and they know you are not taking any equipment. So eventually, we got 45 minutes in there and then we hired a van and a trailer so we got in there and just grabbed whatever we could" (B2B 03)	
"So, in same time, we were at the point of probably do we turn the key in and just walk away from it or do we fight it and try to retrieve." (B2B 03)	Not quitting, fighting
"There was son in law and my son, my wife and we all just went on running to grab whatever we could sort of thing that was most important to get our records, any paper records that we had to grab" (B2B 03)	Family support
"But we have been very fortunate as compared to the broader situation in Christchurch. People were there to assist us. They give us strength. That carried on" (B2B 03)	Help from the people, emotional support
"It is just like anything, if you plan you can achieve, can't you? Even though how smaller it might be." (B2B 03)	Believing in own ability, Importance of planning
"All you got to do is stay positive and composed in front of people. In front of your staff. That we are going forward we are not closing." (B2B 03)	Staying positive
"It was improvising, that what we were doing every day of the week. That's what we had to deal with. So, we had to deal with it." (B2B 03)	Improvising
"We lost all of our core business really. Quite 50% of it. And we just had to, it was either close the door, close the bags and walk away from it or go outside, and do it. And that is the path we choose to take." (B2B 03)	Determination
"You got to be positive in a way you approach it otherwise and you know I would not be here today." (B2B 03)	Being positive
"I used to wake in the morning and say, no not another day but then used to say, quickly, out of the bed, in the shower, get dressed, and go. It is too hard." (B2B 03)	Determination
"Sometime, in some situations even like this we had the responsibility to staff and my son and wife and we had money invested in and I am not just that sort of person." (B2B 03)	Obligations
"It is essential in any business. They must have a plan, where you are going. Goal setting. What do you want to achieve." (B2B 03)	Importance of planning
"I caught up almost a year. Like you just sort of say hi listen, you have to look after you and you and you. We have got families. We have got responsibilities to try and get on" (B2B 03)	Personal obligations

**Table 5-3: Initial codes: B2B 03**

The business owner displayed a strategic approach while handling the company in the post-earthquake context. The most prominent aspects were recovering quickly, getting support from family and friends, being optimistic about the future, persistence and adapting according to the circumstances. I wrote multiple memos reflecting on the business owner's practices which ensured its recovery.

#### **Reflective memo 1:**

"The business owner knew the importance of the data. I had an assumption that the business owners of small firms might not understand these little but crucial aspects, such as saving the hard drive for data safekeeping. The business owner immediately thought to save the business information which was in hard drive (that is, quickly realising the impact the earthquake could have on their business). The immediate reaction of the owner was to get hold of that. After the first massive shock, the owners and the employees had to leave the building but once it stopped. The son of the owner

went into the building and quickly grabbed the important things, laptop, cell phones, handbags of the employees and most importantly the hard drive with all the data on it. It was about securing the information which is crucial for the business to run again. All the customer data and contact information were in the hard drive.”

The business owner took prompt but calculated steps, which saved the business owner effort, time and money. The business owner acquired their business information and important customer data on the day of the earthquake from the damaged building. The main aspect in this whole situation was that the business owner remained composed and decided quickly what the next steps should be. He quickly realised the impact of the earthquake. Despite this realisation, he tried to remain calm for his employees who were hugely traumatised by the earthquakes and the aftershocks. The business owner and his son helped the employees to get their stuff from inside the building and calmed them down.

The second major part was related to how the business owner utilised his personal resources and connections to keep the business operational after the earthquakes. They had no place to re-establish the business, therefore, the business owner decided to shift his business into his home as an initial step.

#### **Reflective memo 2:**

“The interview also shows that the business utilised personal resources. The owner used a spare room in his own home to restart the business. This shows that the business owner and small businesses are inseparable. Most of the business owners interviewed are very much invested in their businesses that they go to extra length to keep them running. Personal resources such as homes, cars, equipment and many other things were used in re-establishing the business. This gave businesses leverage to deal with the disaster quickly. Alongside utilising the personal resources, this current case is an example of how the business owner’s close connections helped the business to recover. Family members really supported the initiative of re-planning about the business and its future. Family members from overseas came and put in effort to get the business back on track and make it better than before.

After analysing, I felt there are some groups of people, mostly your friends, who will come to help during a difficult time. Regardless of their own work, they will be able to provide you with support. For me, they are business consociates. Business consociates help the business without any gain or benefit for themselves. Such as in this case, one friend helped him to understand the whole situation and prepare him for the challenges ahead. The friend, even though he had his own work to do, spent time with them and basically established a plan for the business and allocated family member tasks to complete. It was surprisingly systematic such as using a whiteboard, charts and other planning tools. Another friend helped him with space to work in. This help and support provided relief for the business owner. The financial help, time and

other sorts of help from friend enabled the business owner to keep his head straight so that his business stayed afloat.

The family also helped in terms of emotional support. The family gathered to help grab everything, on the day that the business owner was allowed to go into the building.”

This interview shows there are a combination of aspects that help create a successful trajectory in the aftermath of the earthquakes. He had support from his family and friends. The owner understood the importance of data which shows that the business approach was strategic rather than merely focusing on running daily activities. He appreciated his friends’ efforts and showed gratitude. Additionally, the owner used a step-by-step approach to solve each problem. The plan was divided into smaller parts; this strategy helped him stay focused and to achieve the broader objectives. Alongside planning carefully, the business owner tried to make quick yet informed decisions so that he could carry on with business activities.

### **Reflective memo 3:**

“Setting up the business processes in the new place was also done quickly. This was important because setting up the business again is a signal that the customers are going to contact them for services. This means that the sooner the business is back to normal operations, the greater the likelihood that they will regain their customers. For example, they had a specific time to take their belongings out of the building. A team of engineers accompanied the business personnel into the building and they were allowed to take their important stuff. There was limited time and the business needed to act quickly to get as much material as possible out of the building. The businesses had to act fast. On different occasions after the earthquake, such as on the day of the earthquake and immediately setting up the business temporarily, they had to act quickly and make multiple decisions on further steps. Acting quickly and deciding right on the spot and being flexible enough to adjust the decision right from the start is what enabled the business to navigate through the aftermath of the disaster. This flexibility provides businesses with the room to experiment and take corrective actions.”

The earthquake was a traumatic experience for everyone, especially for those who lost family members or friends, or who watched buildings collapse in front of their eyes. Experiencing it, either personally or business-wise, was stressful. Through it all, some businesses remained intact; B2B 03 is one of them. Thinking strategically is a key theme that emerged from the interviews.

### **Reflective memo 4:**

“Planning is key part of the process in dealing with the aftermath of a disaster. If you can plan and set out major goals and develop them into short terms objectives, it will pay in the end. This is evident in the B2B 03 interview. The business owner also needed

to consider other options; for example, this business had to change their client base; and asked other businesses to be their clients, regardless of their location in New Zealand. It is about sticking with what you believe in and what your targets are. Thinking ahead and opportunity-seeking pays off. Careful decision making and acting quickly are key components of successful small businesses. Improvising as needed is necessary. The business was adapting and changing according to the challenges it faced. Improvisation allowed the business to analyse the situation and then act. The business owner’s mind-set (determination and commitment), is crucial in order to adapt and adjust to the situation. For example, in this case, the business owner displayed determination and an attitude of never giving up.”

This interview and earlier ones, reveal some key business attributes, including owners’ strategic thinking, networks, the influence of external (government) policies and regulations and acting quickly. These aspects are summarised in the next interview to compile a list of emerging aspects in the data.

### 5.1.3. Interview 06 (company pseudonym: B2B 01)

The interview was conducted with a second-generation family business, in this case, a furniture manufacturer. At the time of the interview, the business mostly focused on framing wood furniture which was sold onto an upholstery manufacturer who covered and sold the furniture. Table 5-4 shows the coding for the emerging aspects identified in the transcript.

Quotations	Initial codes
“We were able to see through that time when it was very difficult when we paid ourselves less. There was no return on the business. We did not pay ourselves. So, we kept cost down by being at back, taking less out of the business ourselves or paying ourselves less.” (B2B 01)	Cutting personal costs
“Were very frugal in our spending both personally and as a business during that time” (B2B 01)	Frugal spending
“No we could not [quit]. My father would have been very upset. It is a family business. And brother is very passionate about it. He is. He loves the business.” (B2B 01)	Family business obligations
“When the quakes hit, there was a lot of damage to one of our factories. Because we have two factories on the actual section where we operate. One of them is badly damaged. So, it was an opportunity to a) rethink the whole production line. The value chain through our factory and so we completely rejigged and re-built the way our factory operates. In one of the particular building. So, it is much more of a computerised production line.” (B2B 01)	Seeing an opportunity in the disaster
“Also it was time for us to look at the actual ownership structure within the business. With the business, within the ownership of the factory, business, rental properties we also had it as part of the family assets. And what we did was it was a really good time for us to sit and clearly identify what assets are for his family and what assets are for my side of the family.” (B2B 01)	Ownership and family property restructure
“Suddenly, we had to do something about it. Because otherwise we were not going to survive. When the quakes hit. That required us to have to look we have to rethink the layout of this factory otherwise we are not going to survive. And we also have to rethink the ownership structure of this business. Because the family keeps expanding. So, often you find these major events a catalyst rather than the events.” (B2B 01)	Family business restructuring

Quotations	Initial codes
"My view is still that the situational factor. Depending on the type of people you have, the ownership you have, structure you have, the personality of the owners, the type of staff the type of product you reproduce. The type of market you are in, must all have an impact say I need to create a business model that suits my particular situation." (B2B 01)	Creating a suitable business model
"Small businesses, in essence, most small businesses are run by the owner, the founder. and basically, as my brother and I, after worked has finished, our staff has left at 4:30 and we are still doing something and we are sitting in the office and saying, 'I think we will do the things this way. I think we should go down this road rather than that one'. And it would happen. And small business can do that. You can virtually change anything you want overnight without having to go through a whole lot of administration." (B2B 01)	Giving more time to the business as compared to working for someone else, Flexibility in terms of making changes
"I personally think that is the outcome of their traits. And I think to be successful in the business you have got to love it. You have got to be passionate about it. You have got to believe you are doing something important. So, if you really in something you are doing, and you are really passionate about it and you enjoy going to work every day then you can live the highs and lows. Without that when you had a low, as you often see people saying, I have had enough of this, I am going out." (B2B 01)	Passionate, Traits
"Being well capitalised so that when you do have a financial setback, it does not destroy you. Having good cash flow management is important. Bottom line is you got to have more money coming than going out. If you can't manage that you are going to go out of the business. So, there is lots of things that make up a resilient business that can last for long time." (B2B 01)	Financially strong, Financial planning

**Table 5-4: Initial codes: B2B 01**

Since its inception in the early 1970s, B2B 01 has been through a lot of changes. The business was established by the father and transferred to his two sons. After joining, they (the two sons of the original owner) suggested new changes: mainly, computerisation and upgrading the old machinery. They wanted to be the first furniture company in New Zealand to install computerised manufacturing. The business had local buyers and suppliers. Competition was conventional; that is, every local player was competing against each other for market share. In the 1980s, the government imposed some rules which allowed foreign companies sell their products in New Zealand. With the introduction of a free-market economy, the furniture industry underwent significant changes. Local furniture manufacturers realised that they would experience new levels of competition from furniture importers. The local market slowly and gradually shifted to a network-oriented approach. The linear supply chain of traditional suppliers, manufacturers and retailers became a network-oriented model. In addition to industry changes, B2B 01 was going through a major change in its factories; that is, a change from man-made manufacturing to computerised manufacturing. This entailed changing their assets, processes and most importantly, shifting their focus. They changed from complete product manufacturing to componentry manufacturing. These changes took place over ten years. Even though the owners could see future benefits for the business, the ten-year period of change was still challenging. Increased competition and the shift in focus were two huge milestones for the business. They had to keep costs to the minimum and keep adjusting to the external environment. During this

time, they recovered by cutting costs for themselves; they did not take any extra money out of the business. During this period, one of the brothers experienced burn out and decided to leave the business. This was a gradual process as he did not want to leave immediately and damage the business. He started a part-time job and began studying. However, he was still managing the business' cash flow. In 2000, he completely left the business and started another career. During this time, the owners realised that they do not have paperwork which outlined who owned what; this was due to the business being a family business. When the earthquakes happened, the family saw it an opportunity to sort out the costs and business-structure. They decided upon the business structure and also replaced their man-made, old fashioned machinery with new updated machinery and changed the layout of the factory using the insurance money.

Being a family business for one generation, provided this business with an edge over other newer businesses. The years of experience and involvement in the business provided an incentive to face difficult situations.

#### **Reflective memo 1:**

“The business was family-owned. The owner acknowledged that it was because it was a family business that it recovered through the hard times. They were able to cut down on their costs and not take anything out of the business. These things are only possible when the business owner has a deep, personal association with the business. The business owner's engagement and motivation to keep business running is higher in the case of a family business. This shows that the business owner and his family were conscious of the financial decisions they were making in uncertain times.

Another unique aspect of this business was that, before the earthquake, many of the things were just trust-based (not recorded), the earthquake acted as a catalyst for changing their business structure. Because as the family grew, the next generation could not fully relate to the business, they wanted to make sure that the business was more formal and that important information was written down and agreed upon. After the earthquakes, it was an opportunity for the owners to restructure the business so that they could avoid any family feuds in the future.

Also, foresight about being pioneers in the market gave them an edge over their competitors. They were pioneers because the whole industry was changing so they decided to select a specific target market so that they could capitalise on it rather than utilising their resources to compete against importers. They knew they could not beat importers' economies of scale so decided to go down a specific path. In my view, they were able to think ahead and foresee their future in the industry and took risks to recover through hard times, even when there were close to zero sales for months. They recognised their limitations and accepted the challenge. They took proactive steps according to what they foresaw for the future. This attitude of thinking ahead

and keeping the business going is critical for a small business. If an owner is unable to interpret the challenge and resists change then the business may die.”

### **Reflective memo 2:**

“The business owners showed their ability to learn and adjust to technological and other changes. For example, the business owner had to learn how to use the new machinery. He needed to develop skills for CAD/CAM technology to better control the procedures. Acquiring those skills helped the business and he was positively rewarded by being the pioneer in the industry. It was more about exploring different ways to get the business going. The ability to adapt was already evident prior to the earthquake. This is a good trait for business owners to have because it allows them to navigate through different challenges and environments. The owner was undecided about whether it was luck or the power of decision, but stated that it seemed like the right thing to do at the time and it paid off. As small businesses are flexible, they can make decisions overnight and tweak business practices to increase their performance. They took a risk (a cost-intensive risk) and experimented with the model and came through a hard time. They took a chance and ultimately chose the right path. This calculated risk assessment shows the owner’s strategic thinking.”

### **Reflective memo 3:**

“The need to change already existed in the minds of the two brothers. The market changes and the post-earthquake scenario helped them to implement those changes. I think because the owners were able to foresee and think strategically about the business. They were educated businessmen who were battling for recovery. So thinking ahead and changing as the challenges approach helped the business to progress. The owners thought about different ways of approaching the problem because they were future-oriented and wanted to utilise every option. They linked book knowledge with actual business practices. It was one way to recover and they wanted to be more competitive in the market. They also took the challenge positively which was visible throughout the interview, the owners were determined. They seemed positive about the business. These are the aspects which help the business owners to keep going and make the business succeed.”

There are a few emerging themes that are clear here. There are a number of emerging themes here which are related to internal aspects of the business and the owner’s approach; his positive attitude, foresight, financial management and decisions about ownership structure. These developed in response to external elements which impacted upon the business such as road works, external competition and help from neighbours and communities.

The following section combines the emerging aspects and explores the various reasons behind the recovery of the various businesses. While conducting the next interview, I kept these emerging themes

in mind. At this point, I established that the business owner plays a central role in defining a firm's future. To confirm this hypothesis, I used the next interview to probe more into the business owner's abilities and approach in running the business in an uncertain situation.

## 5.2. Initial model development

### 5.2.1. Interview 07 (company pseudonym: B2B 02)

Prior to the earthquake, B2B 02 dealt with cloud and IT services. The business was established a few months prior to the earthquakes, however, the owner and his partners had years of prior experience in the industry. It was a partnership-based business. The partners quickly realised after the earthquakes that the impact would be significant. The following table shows interview excerpts and how these quotations have been initially coded.

Quotations	Initial coding
"We did not have power to our office. So, luckily we were able to work at one of our suppliers' building. They had backup power and those are also the data centres where our equipment was located. So, it made sense. And that's where we worked. For three, four weeks until our office came out of the red zone." (B2B 02)	Support from supplier
"They [suppliers] were really accommodating. It was also a location where our hardware systems were located so that makes sense. It was actually worked out for us very well." (B2B 02)	Accommodating suppliers
"It [relationship] definitely got stronger because we were working with them. It was already a strong relationship. So we still work with them today." (B2B 02)	The relationship became stronger
"They heard about the earthquake what you need, they said. We said lots of storage and stuff. Three days later they had pallets full of equipment here for us from Singapore because we had a spare capacity but not enough to make the demand that came out of the earthquake. And so, they put the whole lot of stuff to us, we got it all operational" (B2B 02)	Getting the resources quickly organised through suppliers
"And the after the red zone, we were able to get back into our office, because we were on the outside of it, but still had no power, sort of you know generator and that kind of stuff to get the office going. We had to have one generator. Yeah, we had access to a generator, was a little bit inconvenient but it was not too bad" (B2B 02)	Quick pathway to recovery
"Just, it was just a very busy time, could not help organise things for people. There was a lot of running around putting temporary solutions in place for people and we actually ended up providing services that are outside of the scope of what we do to just help the people out." (B2B 02)	Acting quickly, Temporarily changing the focus
"We have other skills that were beyond our core services but it took us because we got involved in things that we don't normally get involved in it. It took a year or 18 months after the earthquakes that sort of unravel our involvement in other things IT within our core business." (B2B 02)	Temporarily changing the focus
"We used our existing skills we had from our careers, to help people migrate data, and rebuild service, doing stuff that with the software layer that we would not normally do for the customer." (B2B 02)	Developed experience and skills
"Through our networks, people that we knew. A lot of people made contact with us to help out. So our networks, they people we knew, they trusted us I guess. Came to us to gain our expertise now help to resurrect their businesses.	Existing connections asked for help (increased sales for the business)

Quotations	Initial coding
Through years and years, there were few customers coming back directly after the earthquake. But it was people that we knew, and have worked with in our past careers. I guess they trusted us prior to the earthquake that became our customers pretty much overnight.” (B2B 02)	
“Yeah, there was a really good cooperation between everyone in our industry to deliver the outcomes. You know, what we need to do quickly to get on and make it happen. It was actually a fun time, well that was lots of hard work, and it was fun because everyone was trying to help people. So, it was a bit more exciting” (B2B 02)	Industry and community support
“I think, whether people know it or not, they taught everyone in Christchurch a lot about business continuity management or having a business continuity plan” (B2B 02)	People learnt in the community
“It is like the child that has burnt his hand on the fire, they have been there once you know, and they are highly unlikely to touch it again. It is human nature, some business put off until they really have to do something about it. And Christchurch earthquake has just taught people that they could not, they need to take it more seriously” (B2B 02)	Over business community learning
“In Christchurch, I think it probably taught people to collaborate and work together a bit more, you know like, after the earthquake just everyone worked together to get things done” (B2B 02)	Community became stronger, Collective learning
“Like now, we have got our business BCM, business continuity management framework and we have a policy it lists where we are going to work, how we are going to get power, all the contact numbers of all the people. and it also, we have got it identified the biggest risks of a disaster affecting us and what the likely consequences for us would be around the access to a building or power or people and just make sure that we have got at least a plan that is written down for those sort of things.” (B2B 02)	Learning the importance of BCM, Implementing and adapting
“They [the events] have told people every business should have a business continuity plan whether it is on two pieces of paper or 200 like they should take it a bit more seriously than they do” (B2B 02)	Business learning, Knowing the importance of disaster planning
“I think, I would recommend business to do risk assessment. Create a business continuity plan and make sure it is well understood with your staff and if there is any aspect of it that need testing then test it. If you need to do all and tests and prove that you can recover your service then do that” (B2B 02)	Practising the drills of BCM

**Table 5-5: Initial codes: B2B 02**

The business, in general, experienced a steep increase in sales and profits after the earthquakes. This was due mainly to increased demand. Apart from that, the business owner had huge support from his suppliers. The suppliers were able to provide them with a workspace. The suppliers offered to help because they had a huge setup and resources of their own. The business owner and his partners worked from the supplier’s facility. It was a relief for the business owner as their own building was red-zoned for several weeks. Consequently, the relationship with the suppliers became stronger as they helped the business during hard times and provided them with a facility to work in. It was a unique aspect for me to examine; that is, the suppliers initiating and offering to help the business owners.

Additionally, there was a parallel, quick thinking process which played a key role in defining the business recovery trajectory. The business owner had to decide quickly after the earthquakes what

damage there was and what needed to be done in order to re-establish normal business operations. Whether it was acquiring resources or finding the best possible action, the business owner needed to make prompt decisions. For example, there was a power shortage so the owner sorted a temporary solution. The business owner also had to shift the business' focus temporarily to accommodate the influx of customers; that is, to provide data recovery services and securing data files for the customers. This was not the business' main focus prior to the earthquakes.

The data analysis of this interview showed that the business owner was a collaborator. He had a good reputation from his past employment. The business was established a few months prior to the earthquake, however, he and his business partners had been working in the same industry for several years. That created an edge for the whole company regarding utilisation of their technical abilities to cater the increased demand. The business also benefited from pre-existing networks which approached them for help with their IT services. Previous colleagues and contacts approached them due to the business owner and partners' trustworthiness and reliability.

The business owner learnt about the importance of emergency planning and executing these strategies. Prior to the earthquake, the business owner did not fully realise the importance of emergency planning, however, the earthquake taught him this lesson. The business instituted regular emergency drills and exercises. The following quotation from the interviewee shows the learning and development of the business from experiencing the earthquakes:

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*"I think a lot has been said for basic business continuity plan. What would happen? Could you walk into the average business in NZ and could they show you the business continuity plan what happens if their key person is not there anymore. What happens if the building is not accessible anymore? Or they have lost their access to their IT systems or what is their plan? What is their business continuity plan, what the stats is and I imagined that I am guessing, that less than half that had it. A lot of people know they had what they would probably do, but what if that person is not there or anything, something that your other staff can just go to and know and test the plan as well. We run some tests exercises so we are pretending that we cannot work from this office and we need to go and pick up BC plan and prove that we can work from one of the manager's home." (B2B*

*02)*

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Another prominent aspect emerged from this interview: a collective learning was developed in Christchurch for small businesses. Businesses learnt to develop continuity plans and contingencies in the case of an emergency.

These aspects helped me to devise questions for the next interview. The next business was asked for a detailed information about how they were able to continue with their day-to-day activities.

### 5.2.2. Interview 08 (company pseudonym: Consultant 01)

Consultant 01 started in 2005. It provided consultancy services for firms tendering and procurement strategies in New Zealand. The demand for these consultancy services increased in Christchurch city after the earthquakes. Additionally, the business owner shifted the company’s focus mainly to project management due to the physical work which was required to restructure the city. Table 5-6 shows the coding for the emerging aspects identified in the transcript.

Quotations	Initial coding
“I probably got a little bit more into project management after the earthquake because what happened was from the earthquake we found that in Christchurch what was needed was people on the ground in a response-type situation to deal with like literally we don't know what we're about to deal with here, can you come and assist us. Because not only do the clients have day-to-day everyday work, but now we've got this whole earthquake work to do.” (Consultant 01)	A focus shift, Adaptability
“So we, the trusted advisors, all our clients all of a sudden looked at us in a way as an extra pair of hands. One of the particular jobs I did was probably more in project management rather than an advisory consultant.” (Consultant 01)	Increased demand, already developed connections
“What ended up happening was, because with the elderly population they couldn't do the work themselves so then we had to look after people who had disabilities. The Christchurch District Health Board got in contact with me and said we hear your project managing this work, but this is what is going on. We have clients who can't do that work. So by default I sort of had become quite trusted. Companies were so desperate for help that they couldn't actually get the resource from within the organisation, so they were very grateful that there was a team like my team to come in and help with that.” (Consultant 01)	Opportunity for the business to grow
“So we very much became involved in response. Because that happened, obviously we had our usual work, we actually ended up employing a lot of people as subcontractors to our team. So we were about a group of six and we probably grew to about a group of ten in that time which is starting to get up into a medium-sized firm. But that was really only temporary and of course a couple of years later we weren't really in that response work anymore.” (Consultant 01)	Grew the business in terms of people
“But our structure of our organisation changed anyway because partners wanted to change the structure.” (Consultant 01)	Organisational structure changed, earthquake was trigger point
“It was more as a result of we were getting a lot more work down here probably due to the earthquake” (Consultant 01)	Catalyst for the structural changes
“Because we're so small, we're really adaptable. That's part of the whole thing.” (Consultant 01)	Being flexible, Adaptable
“I've changed personally because I've studied.” (Consultant 01)	Personal learning

Quotations	Initial coding
"As a business, I don't think we will be taking on too many more people again. We don't want to grow, which sounds counterproductive, but for us we do very well on our own." (Consultant 01)	Strategic learning
"There was a point where the demand was so high that you could sort of say oh well we'll charge that. They were so desperate they would pay for it, but still within reason. You don't put your clients off by being greedy. You just have to be reasonable." (Consultant 01)	The customers were desperate

**Table 5-6: Initial codes: Consultant 01**

The business owner was quick yet calculated in deciding which path to take after the earthquakes. There was huge demand in the city for consultancy and acquiring the required resources for the rebuilt; the business owner captured this opportunity. The business started to work for organising the labour, material and subcontractors for the rebuilt.

Prior to the earthquakes, the company's structure was such that the owner worked alongside a group of consultants. They were pooling every partner's abilities and worked on projects collectively. However, the earthquakes provided the business owner with an opportunity to change this structure. The business partners dissolved their contract and began working independently.

Additionally, the business owner's focus shifted from consulting solely on procurement services to project management services; in doing so, she broadened her business scope. Like the previous interviews, common characteristics emerge. These are: seeing the earthquakes as an opportunity to grow the business, and learning/or and adjusting to the new environment. These similarities have been combined Table 5-8 for comparison and an initial model was developed in the end of this chapter.

### **5.2.3. Interview 09 (company pseudonym: Retailer 03)**

This interview was conducted after including the above-mentioned emerging aspects from the previous cases. In addition to questions about business model elements you also asked questions about how and why the business owners conducted their business in the post-earthquake context. Considering they had an option to quit, what were the aspects which enabled them to keep moving forward? In this case, the owner of Retailer 03 showed a lot of passion and interest in the business. Although the business owner had to take a few months break due to his health after the earthquakes, he ultimately returned and revived his business. Table 5-7 shows pieces from the interview which reinforce common themes from the previous interviews.

Quotations	Initial coding
"What we had was the gut feeling that we are going to succeed in business. When we first started our business about 80 to 85 most of the people said that will fail within first 6 months. And I accepted that this challenge that we are not going to fail." (Retailer 03)	Having belief in themselves prior to earthquake
"And in the first year of our business operations, we formed a company called [X]. The reason for that was to bear in mind what forecasts were saying. They were saying that we will fail within 6 months. We picked a generic name like Spot on Enterprises Limited. So if the video business fails we can always sell bananas or shoes. So that was the philosophical thinking behind it. One of the most strategic things, I had in my mind was how to mitigate the risk. how to prolong the strategy that can survive for longevity" (Retailer 03)	Strategic thinking from the initial operations of business.
"There are good rays of hope in that [earthquake experience]. That brought a lot of understanding in the business community and community as a whole. Like you got to know your neighbours better and the people around you. With the happening of the earthquake you learn to meet people and their thinking as well, which a good thing is. It brought a lot of communities together. So it was a good shared experience." (Retailer 03)	"Good rays of hope", "Understanding in the business community", Community overall learnt
"The strategy came into being in the 1990s. So, well before the earthquake happened. What the earthquake did was basically, out a lot of changes into that strategy of how to survive with the worst effect." (Retailer 03)	Catalyst with a prior strategic mind-set
"And that's been a learning curve for us over past seven years. We are moving forward. We are learning." (Retailer 03)	Business learning
"No, no. I could not foresee that if it was not for the earthquake." (Retailer 03)	EQ was a trigger point
"Oh, I have been wanting to change my business for a long time. A lot of things you see. But it is just the matter of sheer limited by the resources and the finance." (Retailer 03)	Strategic but limited resources
"Our business is based on evolving every day." (Retailer 03)	Adjusting, adapting
"Basically, thinking outside of the square. Going, and relating to these other people. And finding out let the frustration really. Going into the garden, doing some gardening work. Even going overseas. Out of Christchurch. This was my basically, frustration out." (Retailer 03)	No quitting, Maintaining the health and other aspects of life
"[Family was] very supportive. 100 % credit [business recovery] goes to them." (Retailer 03)	Family support

**Table 5-7: Initial codes: Retailer 03**

The business owner was determined to keep the business running. The initial stages of the business show that the owner is strategic in making decisions based on calculations and the ability to foresee the impact of those decisions. This attribute can be seen in his choice of company name. The business owner wanted the name of the company to be generic enough to allow for any product changes in the future. These small but careful decisions were key aspects of the business prior to the earthquake. After the earthquake, the business also illustrated it was flexible enough to meet changes in the environment. The business owner remained positive; he saw the earthquake as a catalyst for the business and remained determined even though he was dealing with health challenges. He acknowledged that the business' recovery was due to support he received from his family after the earthquake. He also acknowledged that it is impossible for small business owners to separate their business lives from their personal lives. He noted that after his own ill health had an effect on the business; thus, he took a few months break before he re-established the business.

### **5.3. Initial model**

Table 5-8 summarises the emergent aspects for all nine cases in the initial data collection and analysis phase. The table highlights commonalities and variations among the cases. For example, most of the businesses strongly emphasised strategic thinking. It means that the small businesses plan, make careful decisions and remain vigilant in their financial/operational aspects. This table also shows differences in each of the business owner's approaches. For example, owner of Retailer 02 did not see any value in planning and ultimately ran his business in a haphazardly way. Whereas, B2B 03 showed strategic ability and adjusted to the post-disaster situation. In short, this table shows clear patterns in the data.

Initial codes (combining similar codes)	Company pseudonym								
	Construction 01	Retailer 01	Retailer 02	Edu 01	B2B 03	B2B 01	B2B 02	Consultant 01	Retailer 03
Seeking an opportunity, Seeing an opportunity in the disaster, Catalyst with a prior strategic mind-set, Opportunity for the business to grow, Catalyst for structural changes, EQ was a trigger point, Organisational structure changed, Earthquake was trigger point, Earthquake – trigger point									
Nature of the business helped									
Learning ability – prior/previous experience, Developed experience and skills, Experienced uncertainty before									
Strategic thinking to run the business – prior, Strategic thinking from the initial operations of business, Strategic but limited resources									
Adaptive to the changes posed by changes in the environment, Adapting to the circumstances, Adjusting, Adapting									
Employees - communication and care									
Learning after – paperwork, laws and regulations									
Overall business owner's approach									
Family business – positive impact on recovery, Family support, Family business obligations									
Industry groups and connections – helped									
Insurance struggles									
Utilised own resources, Utilising personal resources,									
Capitalising on previous connections, Capitalising on connections, Suppliers' support, Accommodating suppliers, Existing connections, Asked for help (increased sales for the business), Utilising pre-existing connections									
Now feels ready to face challenges									
Psychological pressure – from personal aspects									
Inaccessibility of the business location									
Complacent – philosophy, Interest of the business owner – decreased									
Government support									
Interest of the owner reduced, Complicated job									
Perception of external unstable policies									
Sharing the building with another company									
Importance of data, communication with the stakeholders, Keeping the business running									
Quickly setting up, Recovery quickly, Returning to routine activities quickly, A focus shift, adaptability, Quick pathway to recovery, Acting quickly, Temporarily changing the focus, Improvising, Being flexible, adaptable, Organising resources quickly, Quick action, Decisions to get the material out									
Communication flow for the customers									

Initial codes (combining similar codes)	Company pseudonym								
	Construction 01	Retailer 01	Retailer 02	Edu 01	B2B 03	B2B 01	B2B 02	Consultant 01	Retailer 03
Friend helped, Friend's support, Planning and acting quickly, Smaller steps taken, Friend's mentoring, Huge role of friends and family in the recovery, Staying positive, Small steps to recovery/survival, Help from people, emotional support					■				
Exploring other areas, Network of agents, Communicating about availability					■				
Not quitting, fighting for recovery, Maintaining health and other aspects of life, Determination, Passionate, Traits,	■				■	■			■
Believing in own ability, Importance of planning, Having belief in themselves prior to earthquake					■				■
Staying positive, Being positive, "Good rays of hope",					■				■
Personal obligations					■				
Cutting personal costs, Frugal spending						■			
Ownership and family property restructure, Family business restructuring						■			
Creating a suitable business model						■			
Giving more time to the business as compared to working for someone else, Flexibility of making changes						■			
Financially strong, Financial planning, Importance of planning					■	■			
The relationship became stronger – suppliers							■		
Getting resources quickly organised through suppliers							■		
Industry and community support							■		
People learnt in the community, "Understanding in the business community", Community overall learnt, Community became stronger, Collective learning							■		■
Over business community learning							■		
Business learning, Knowing the importance of disaster planning, Practising the drills of BCM, Learning the importance of BCM, Implementing and adapting							■		■
Increased demand, Already developed connections								■	
Grew the business in terms of people								■	
Personal learning								■	
Strategic learning								■	

**Table 5-8: Cross case comparisons**

### 5.3.1. Secondary coding

Table 5-9 shows how first level coding was converted to pattern coding and sub-categories were developed. In the first phase of the data collection, major subcategories include 'learning (business operations)', 'adaptive-ability', 'business connections' and so on.

Initial codes	Pattern coding	Sub-categories
Seeking an opportunity, Seeing an opportunity in the disaster, Catalyst with a prior strategic mind-set, Opportunity for the business to grow, Catalyst for the structural changes, EQ was a trigger point, Organisational structure changed, Earthquake was triggering point, Earthquake – trigger point	Getting opportunities from earthquake	Earthquake as catalyst
Learning ability- prior (previous experience), Developed experience and skills, Experienced uncertainty before	Learning attitude - Prior	Learning attitude – business wise
Learning (after) – paperwork, laws and regulations	Learning attitude - After	Learning – business operations
Strategic thinking to run the business – prior, Strategic thinking from the initial operations of business, Strategic but limited resources	Careful business thinking	Ability to think
Adaptive to the changes posed by changes to the environment, Adapting to the circumstances, Adjusting, adapting	Adjusting	Adaptive-ability
Employees - communication and care	Keeping the information flow, caring for the business	Strategic thinking – employee care
Overall business owner's approach	Philosophy of business owners	Thinking/approach of decision makers
Family business – positive impact on recovery, Family support, Family business obligations	Family helped	Personal connections
Industry groups and connections - helped	Industry connections	Business connections
Insurance struggles	Insurance struggles	Insurance issues
Utilised own resources, Utilising personal resources	Personal resources	Personal resources
Capitalising on previous connections, Capitalising on connections, Supplier's support, Accommodating suppliers, Existing connections - asked for help (increased sales for the business), Utilising already built connections	Business connections	Supplier's help
Now feels ready to face challenges	Ready-ability	Strategic thinking
Psychological pressure – from personal aspects	Personal challenges	Personal struggles
Inaccessibility of the business location		External aspects, uncontrollable
Complacent – philosophy, Interest of the business owner – decreased	Negative aspect	Philosophy of business owners
Government support	Government support	Government support
Interest of the owner reduced, Complicated job	Interest of the owner	Passion for the business
Perception of external unstable policies	External policies	External factors
Sharing the building with another company	Sharing space	Sharing resources
Importance of data, communication with the stakeholders	Importance of data	Importance of data and communication
Immediately keeping the business activities running	Immediate reaction	Rapid response
Quickly setting up, Recovery quickly, Coming back to the routine activities quickly, A focus shift, adaptability, Quick pathway to recovery, Acting quickly, temporarily	Immediate reaction	Quick actions/response, quick changes

Initial codes	Pattern coding	Sub-categories
changing the focus, Improvising, Being flexible, adaptable, Organising resources quickly, Quick action, decisions to get the material out		
Communication flow for the customers	Communication	Constant information flow with customers
Friend helped, Friend's support, Planning and acting quickly, Smaller steps taken, Friend's mentoring, Huge role of friends and family in the recovery, Staying positive, small steps to recovery/survival, Help from people, emotional support	Friends' and family's help and mentoring	Friends' and family's support
Exploring other areas, Network of agents, Communicating about the availability	Communication	Communication flow with business network
Not quitting, Fighting for recovery, Maintaining health and other aspects of life, Determination, Passionate,	Fighting for recovery	Determination, cognitive skills
Believing in own ability, Importance of planning, Having belief in themselves prior to earthquake	Importance of belief	Belief in one's self
Staying positive, Being positive, "Good rays of hope",	Positive mind-set	Optimistic attitude
Personal obligations	Personal obligations	Personal obligations
Cutting personal costs, Frugal spending	Restricting personal costs	Thinking sensibly
Ownership and family property restructure, Family business restructuring	Family business restructured	Opportunity to change
Giving more time to the business as compared to working for someone else, Flexibility of making changes	Small business – working	Small business characteristic
Financially strong, Financial planning, Importance of planning	Financial planning	Financial strength
The relationship became stronger – suppliers	Suppliers' relationship	Business connections - grew
Getting the resources quickly organised through suppliers.	Quickly acquiring resources	Utilising connections
Industry and community support	Industry and community support	Business connections and community support
People learnt in the community, "Understanding in the business community", Community overall learnt, Community became stronger, Collective learning	Collective learning	Collective learning - community
Over business community learning	Collective learning	Collective learning - businesses
Learning the importance of BCM, Implementing and adapting	Learning - BCM	Operational learning
Business learning, Knowing the importance of disaster planning, Practising BCM drills	Learning – disaster planning	Operational learning
Increased demand through already developed connections	Connections	Utilising connections
Personal learning	Personal learning	Personal learning
Strategic learning	Strategic learning	Strategic learning

**Table 5-9: Initial codes and subcategories: Initial analysis**

### 5.3.2. Categories development

The sub-categories were then combined in the similar categories and eventually into themes, as shown in Table 5-10.

Sub-categories	Categories	Themes
Ability to think	(Cognitive related) Strategic thinking	Mind-set
Adaptive-ability		
Strategic thinking – employee care		
Thinking/approach of decision makers		
Strategic thinking		
Philosophy of business owners		
Importance of data and communication		
Thinking sensibly		
Personal learning	Learning attitude	
Strategic learning		
Learning attitude – business wise		
Operational learning		
Learning – business operations		
Passion for the business	(Cognitive related) Interest of business owner	
Determination, cognitive skills		
Optimistic attitude		
Belief in one's self		
Sharing resources	(Activity based) Sharing resources	Adaptive coping
Rapid response	(Activity based) Quick Actions	
Quick actions/response, quick changes		
Constant information flow with customers		
Friends' and family's support	Family & Friends	Social capital
Personal connections		
Utilising connections	Capitalising connections	
Personal resources		
Business connections – grew	Business connections	
Business connections		
Supplier's help		
Business connections and community support		
Government Support	Connections	
Earthquake as Catalyst	Catalyst Approach	
Opportunity to change		
Financial strength	Other factors – external, small business specific, personal	
Small business characteristics		
Communication flow with business network		
External aspects, uncontrollable		
Insurance issues		
Personal struggles		
Personal obligations		
Collective learning – community		
Collective learning – businesses		

**Table 5-10: Themes: Initial analysis**

Table 5-10 illustrates that these are 'intangible' aspects and 'action-oriented' aspects which businesses mentioned their interviews. The other common feature is that the interviewed businesses

had a support from their families, friends and neighbours. These three different themes were identified in the initial data.

#### 5.4. Conclusion: initial model

Detailed primary and secondary coding of the nine cases in the initial phase of data collection and analysis led to the development of a tentative framework (shown in Figure 5-1).

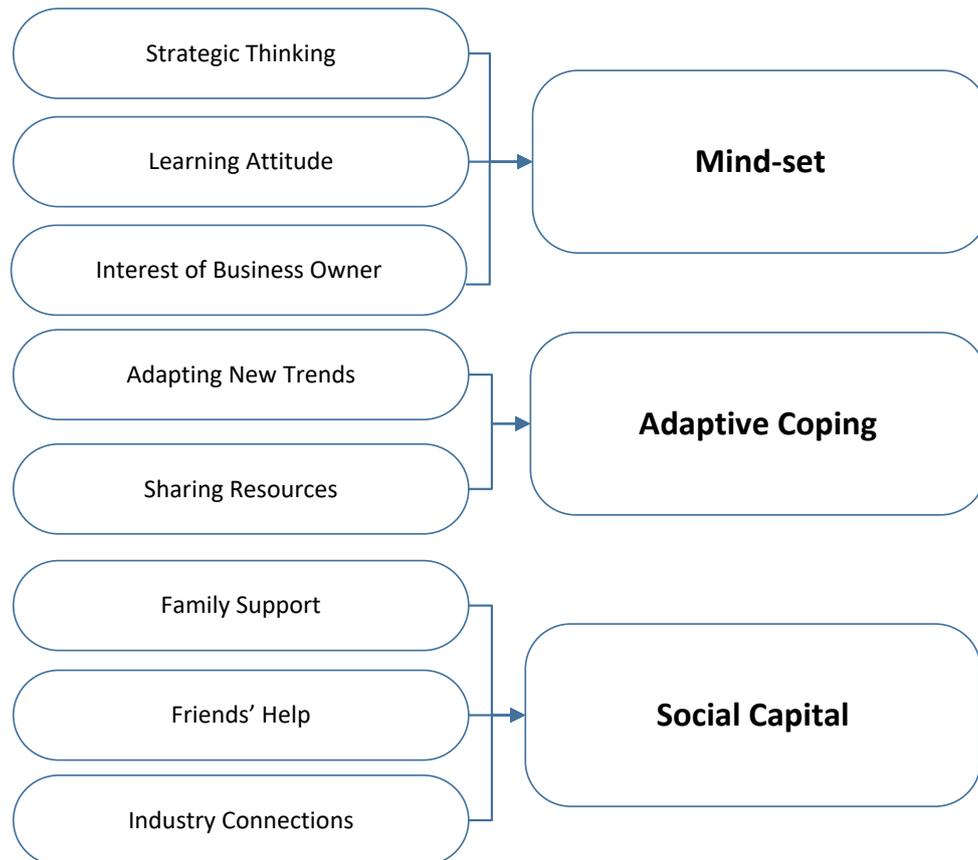


Figure 5-1: Initial model

Three themes emerged from analysis of the nine cases. First, the business owners' mind-set is significant as it influences how the business owners approached problems, learnt from their experiences and maintained their passion for running their business. Second, businesses adapt their business practices through different means. Adaptive coping is action-oriented. Third, friends' and families' support for the businesses was crucial for getting the businesses up and running again. In sum, mind-set, adaptive coping and social capital helped the nine businesses to recover the post-earthquake context.

This chapter provides the foundation for the following chapters. This framework is the basis for further data analysis. I did not collect any further data for a month to allow time to fully understand the material and the initial framework.

## **Chapter 6. Cognitive Framework**

This chapter continues the preliminary analysis presented in the previous chapter. The initial model, developed from analysis of the nine business case studies, is tested using 23 additional case studies. Analysis of these case studies resulted in the refinement of the initial model and led to the establishment of three themes related to SME recovery. One of these three themes is discussed in this chapter. The other two are discussed in Chapter 7 and Chapter 8. The final theory is presented in Chapter 9.

This chapter focuses on business owners' cognitive characteristics and how these enabled them to cope with the challenges associated with the Canterbury earthquakes. This chapter is divided into three main sections. The first section includes an in-depth analysis of the first theme (owners' thinking), describing how this theme emerges from the data. Further analysis is used to dissect the owner's thinking which results in four categories, described in this chapter. The third section evaluates the business cases against the developed theme and its categories. The chapter also provides information about the businesses' performances post-earthquake. These evaluations reveal variations in the different cases. In the end, the chapter mentioned by defining the application and scope of the owners' thinking.

### **6.1. Introduction to the theme**

Owner-specific characteristics include the owner's cognitive orientation; in particular, how they perceive a situation, process it and analyse the information. The owner's orientation refers to the stance which business owners take when faced with a disaster. Owner-specific characteristics relate to how owners perceive the challenges in the post-earthquake scenario and act accordingly, which defines the recovery trajectory of a business. Further, the owners' cognitive orientation includes how business owners process and analyse the available information. Cognitive orientation is essential as it is what enables them to carry on and interpret the available information, immediately after a disruption. An owner's ability to make sense of a sudden shock is crucial for making informed decisions. These owner-specific characteristics determine a business owner's behaviour/actions in difficult times. analysis of the data revealed that a positive mind-set and belief in one's abilities were crucial for business recovery.

The businesses who participated in the research reported facing distinct challenges as a result of the earthquakes. For some, the earthquakes meant they had to temporarily close their business due to reduced demand. For others, it meant that they had to relocate from the premises they had been

operating from for several years. The degree of damage varied from business to business and the locality in which they were operating. Despite these challenges, business owners were determined to manage their businesses and stay strong. The reasons why businesses owners continued after the earthquakes are worth exploring further.

## 6.2. Development of the category of ‘motive’

The owners’ cognitive orientation helped businesses to achieve growth. This orientation enabled owners to re-energise their current business and carry it forward. This section defines the first category: business owners’ motives. These are internal or external stimulus for the business owners to pursue their businesses after the earthquakes.

This category explains owners’ interest in their businesses, the role of obligations (personal or business-wise) and investment in the business. This section demonstrates specifically how codes are generated from the quotation (Table 6-1) and identified pattern codes (Table 6-2). It is then explained how the sub-categories were developed leading to the category explaining owners’ intentions to recover their businesses after the earthquakes (Figure 6-1).

Table 6-1 contains examples from interview transcripts, as well as first level line-by-line coding and coding types. For example, Retailer 16’s comment, “It does give me a lifestyle... I don't know what else I would do. I don't know. I still have fun”, is coded as it “gives me a lifestyle” which is an In Vivo Code (Saldaña, 2015). It clearly shows the business owner’s need for routine. Other quotation are displayed in Table 6-1. The text in bold in these quotations show the keywords used in the interviews. In Vivo, Process, Holistic and Descriptive codes are used for data interpretation (Saldaña, 2015). A similar approach to developing initial codes, secondary codes and categories has been used in rest of the findings and analysis chapters (Chapter 7 and Chapter 8). The table is provided for illustrative purposes only; the remainder of the tables are included in the appendices (Appendices D - O).

Quotations	Initial codes	Types of codes
“It does <b>give me a lifestyle</b> ... I don't know what else I would do. I don't know. I still have fun.” (Retailer 16)	“Give[s] me a lifestyle”	In Vivo
“I still <b>enjoy</b> it. I still <b>like</b> doing it” (Retailer 16)	“Enjoy”	In Vivo
“I have worked for 10 years almost for myself, so working as an employee is not an option. My <b>habits and attitude</b> are not like that now. I cannot be time bound. Restrictions... I cannot handle those. So that’s the main thing [to do business].” (Retailer 11)	“Habits and attitude”, Lifestyle Choice	In Vivo, Holistic
“I always had, right from when I was a kid, I had an <b>interest</b> in IT” (Consultant 01)	Aspiration, “Interest”	Process/ Descriptive / In Vivo

Quotations	Initial codes	Types of codes
"I wasn't really trained in the field, but I've always had an <b>interest</b> " (Construction 02)	"Interest"	In Vivo
" <b>my heart</b> is in the town a bit and I want to see a few things progress" (Construction 03)	Liking the work and the area, sense of civic environment	Process
"well <b>that's</b> [passion] the only thing that keeps you going isn't it. If you don't have any of that, well you shouldn't be in business." (Construction 03)	Feeling passionate	Process / Holistic
"I <b>like</b> doing what I'm doing." (Retailer 05)	Liking	Process
"I have always got a <b>passion</b> about food and always liked to try new things and I find that it's probably the restaurant side more attracts me." (Retailer 08)	Passionate	In Vivo / Holistic
"It [business] <b>becomes a destination. It feels like home.</b> " (Retailer 10)	"feels like home"	In Vivo
"I was <b>enjoying</b> what I was doing." (Retailer 12)	"Enjoying"	In Vivo
"I think it is because I <b>feel comfortable</b> with where I am [Running own business]" (Retailer 17)	Feeling comfortable	Descriptive / Process
"We were opened, no matter how hard it was. The <b>people wanted to see shops opened</b> after the earthquake" (Retailer 13)	Remaining open because of customers	Descriptive
"I have worked on the business, after the earthquake, I had to re-establish. The customer started to come and shop from us. I felt that the <b>people wanted to shop</b> so give them a normality." (Retailer 15)	Remaining open because of customers, Re-establishing because of surrounding people	Descriptive
"So I started trying to move the stock because I had to <b>pay the bills.</b> " (Retailer 16)	Financial pressure	Holistic
"Financially we couldn't afford to. We couldn't close the door and say yeah okay, we'll take a minor payment and we'll walk away and lose everything that we have <b>invested</b> in. because they wouldn't let us get our belongings out of the building." (Retailer 18) "we had a <b>bank loan</b> to do that and that had to be paid back." (Retailer 18)	Investment (time and money), Obligations	Descriptive
"I guess personally there were lots of feelings because there was the business but also <b>family</b> . My other role in the community I was a response role within the community as well." (Retailer 09)	Family obligations, Sense of civic obligations	Descriptive / Holistic
"I think it was the thing that I have to give certain <b>wages to the staff and supporting my parents</b> . So that's why I had to work hard. There were many many major requirements so I have to work hard and get my wages running." (Retailer 13)	Obligations of staff, family	Descriptive

Table 6-1: Line-by-line coding

Clear patterns and similarities were evident in the initial coding. For example, Retailer 16's comment, "I was **enjoying** what I was doing" and another comment by Retailer 05, "I **like** doing what I'm doing" are similar. They were assigned initial codes which are 'enjoy' and 'liking'. In other words, the owners gained personal satisfaction from running their own business. These are the feelings that business owners displayed throughout their recovery journey.

Alongside personal satisfaction, a sense of security was also noticed through some of the initial codes, such as "feels like home", "feeling comfortable," and "give[s] me a lifestyle". These codes show what motivated the business owners to continue with their businesses. The business owners feel comfortable working for themselves.

Some codes show business owners' habits and routine. The incentive to carry on working for themselves after the earthquakes is related to how the business owners have invested in their businesses and do not want to do anything else as this gives them a routine and work to go to. These codes are "habits and attitude" and 'lifestyle choices'. This also gives the business owners' a particular type of lifestyle and routine of their liking. It also enables them to come back the normality of life.

Some owners decided to recover their businesses because they were passionate about them. These feelings enabled them to move ahead. Codes such as "interest" (In vivo code), "feeling passionate", and 'passionate' suggest that the business owners were enthusiastic about their business regardless of the challenges posed by the earthquake.

Enthusiasm, liking routine, and passion show intrinsic stimulus which the business owners displayed during the interviews. Some codes such as 'financial pressure', 'investment (time and money)', and 'obligations' show that external stimulus were driving business owners to continue with their businesses.

These first-level codes (Table 6-1) were condensed into second level coding (Table 6-2). This method involves clustering similar codes into bigger codes to reduce the amount of data. Table 6-2 shows how second level codes were derived from first level codes. It shows that similar second level codes were grouped together to form sub-categories. A similar approach to data reduction is used in the further findings and analysis chapters (Chapter 7 and Chapter 8).

First level coding (In Vivo, Holistic, Descriptive, Process)	Second level coding (Pattern coding)	Sub-categories
"Give[s] me a lifestyle"	<ul style="list-style-type: none"> <li>• Passion</li> <li>• Habits/Routine</li> <li>• Choice</li> <li>• Aspiration</li> <li>• Lifestyle</li> </ul>	Internal motives
"Habits and attitude", lifestyle choice		
Aspiration		
"Interest"		
Liking the work and the area		
Liking		
Passionate		
"feels like home"		
"Enjoying"		
Feeling comfortable		
Remaining open because of customers	<ul style="list-style-type: none"> <li>• Investment</li> <li>• Obligations</li> <li>• Taking care of employees, family and related people</li> </ul>	External motives
Re-establishing because of surrounding people		
Financial pressure		
Investment (time and money), Obligations		
Family Obligations		
Obligations of staff, family		

**Table 6-2: Development of pattern codes and sub-categories**

Based on the above analysis, it was concluded the business owners have different motives for keeping their business running after the earthquakes. Their involvement is dependent on their motives. The motives are the driving force behind keeping a business operating. There are internal and external motives.

This classification (internal and external) is done to better understand business owners' motives. Internal and external motives are not mutually exclusive. These classifications reduce the data into categories which are easier to understand. In practical terms, a motive can be internal as well as external. The businesses that recovered after the earthquake and did so with a passion, were also doing so because it was profitable and paid their bills. For example, the owner of Retailer 05 stated, "You either decide you're going to go ahead and do it or you're not going to. I like my business so I decided I would go ahead and do it." This shows that the business owner was passionate about what she did. Later in the interview she mentioned, "I knew I had to. If you haven't got an income, you've got to get an income. You can't live off nothing and as I had sunk quite a lot of my savings into the second shop [new shop] and then I sunk some more into here, I knew I had to do something to earn it back". The later quotation shows that investment also motivated her to carry on with the business. The following section investigates internal and external motives in detail.

### 6.2.1. Internal motive

Internal drive includes the owners' personal characteristics. It includes codes such as liking, passion, enjoyment, choice, interest and aspiration. Internally motivated business owners have an inner spark which helps to drive their business, even in a challenging environment. Business owners felt the need to carry on because they liked working for themselves. For example, Retailer 16 showed a feeling of enjoyment and liking:

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*"I still enjoy it. I still like doing. It does give me a lifestyle." (Retailer 16)*

---

Likewise, Consultant 01 also revealed his interest in the business. From his childhood, the owner wanted to pursue work in the Information Technology (IT) field. The consultant not only maintained his business but prospered after the earthquakes. His aspiration enabled the business not only to recover but to thrive:

---

*"I always had, right from when I was a kid, I had an **interest** in IT" (Consultant 01)*

---

Internal motivation is a crucial aspect in developing and sustaining a business. One of the reasons could be that the business owners are their own bosses. For example, one café owner (Retailer 11) stated, "It is not really a habit for me to go and work for someone else. I cannot do that simply." The business owners were also accustomed to the same routine of running their own businesses; they were comfortable working for themselves and liked that they did not have to answer to anyone. They were their own bosses. Therefore, owning their destiny in the form of running a business was another major factor categorised under internal motivation.

Overall, internal motivation can be defined as an inner, self-driven motive to continue with one's business, regardless of the difficulties and challenges posed by extreme situations, such as an earthquake. Internal motivation means that business owners are committed to their work and as a result, constantly look for opportunities to grow their businesses.

### 6.2.2. External motive

External drive refers to the influence or stimuli from the outside business environment. Business owners in this study felt that it was their obligation to take care of their families and stakeholders;

these are examples of external motives. Their obligations kept them going. For example, Retailer 09 was an active member of the community and was concerned about the wellbeing of the people around him. Apart from his business, the owner was concerned about the community and its recovery.

---

*“I guess personally there were lots of feelings because there was the business but also family” (Retailer 09)*

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Even though he had other duties and personal obligations to perform, Retailer 09 carried on with his business. Apart from personal obligations, the owner felt a responsibility for his employees as well. The business owner did not want to laying off any of his employees. He did not want to add to their problems by taking away their source of income as they were already people by downsizing them, as struggling to deal with damaged houses and a devastated community. Therefore, he decided to work harder to ensure the business thrived and that he was able to pay his employees.

Another example of this theme can be seen in Retailer 13. She struggled to get her business back up and running as usual because her building was severely damaged and all of her crockery was broken. However, she was motivated by her need to provide for her family and pay her staff members. In short, she could not close her café. She had strong motivation and it contributed to her being able to recover the business:

---

*“I think it was the thing that I have to give certain wages to the staff and supporting my parent. So that’s why I had to work hard. There were many many major requirements so I have to work hard and get my wages running.” (Retailer 13)*

---

There are multiple instances where the data showed that the business owners were motivated by external stimuli. The external drive was triggered by the obligations to perform for others, such as family, employees or community. For instance, after the earthquakes many people wanted to help others who had been majorly impacted by the earthquakes. Some people organised shared lunches. Business owners performed similar acts, which can be attributed to their kind hearts. It does not mean that individuals do this only because of external stimuli; the business owners felt the need to provide for their family, friends and community. This is a key part of their nature (who they are); in short, they wanted to help the people around them like their employees and customers.

Other than obligations, the investment business owners had made in the business was also part of the external drive. After the earthquakes, owners had the choice to carry on with their businesses or accept a lump sum amount from their insurance providers and cease business operations. However, the association with their business and investment of their time and money, compelled them to spend more time and effort into recovering it. Some businesses even invested more money and personal savings to recover their businesses because they felt there was no alternative.

Retailer 05 continued with her business because this was what she liked doing. Additionally, she had invested her personal savings into the business so that closing the business was not an option. She had to have a source of income so that she would have a return on her investment. The building where she was located prior to the earthquake, collapsed. It was inaccessible after the earthquakes which meant that she could not get anything out from it. She had to rent a place nearby and pay for the new material and machinery from her personal savings. She was thus unable to quit. She carried on with the same business and gradually gained her target market back.

---

*“You can't live off nothing and as I had sunk quite a lot of my savings into the second shop and then I sunk some more into here, I knew I had to do something to earn it back.” (Retailer 05)*

---

External motives are defined as anything external to the business which compels the business owners to carry on. In summary, internal and external motives are not mutually exclusive, as it has been explained earlier. A business owner who is internally motivated may also be influenced by elements in his/her external environment. Both internal and external motivations explain why business owners remained devoted to recovering their businesses.

### **6.2.3. Category 1: Motive**

The above discussion of two sub-categories, internal motives and external motives, led to the development of a broader category, “motive” (Figure 6-1). In this research, it is defined as the level of work involvement by the business owner. It refers to a business owner’s motivation to carry on with their business after having experienced a disaster.

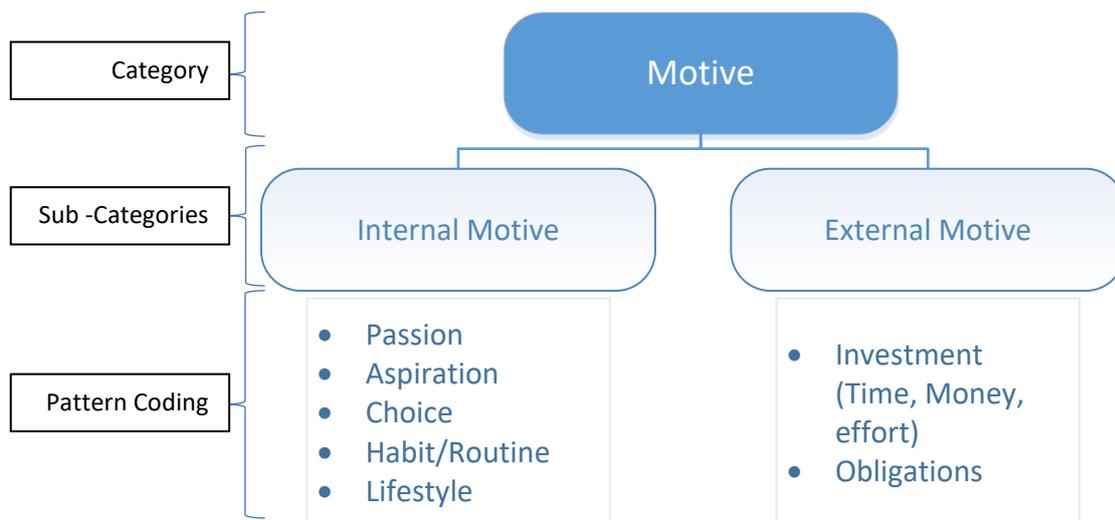


Figure 6-1: Motive; internal and external

### 6.1. Development of the category of ‘mind-set’

The purpose of this section is to discuss the codes that contributed to the category titled ‘mind-set’. Appendix D shows the line-by-line coding and coding types which were developed directly from the participant’s comments. A few examples from the table are discussed in this section. The owner of Retailer 07 was dealing with damage to both her home and her business premises which were closed after inspectors deemed it unsafe. and the business She commented, “From the beginning, I never gave up, just think how can make it going.” This statement was given two codes: persistence and “never give up”.

Some clear patterns were noticed in the initial coding. For example, Retailer 19’s building collapsed. The owner had to shift all the remaining material to another building which was still standing. He mentioned, “I took the attitude I just had to keep going forward even if it was just little steps. I couldn’t look back.” This demonstrates the owner’s persistence. Similarly, B2B 05 who owned a business which had been located in the same location for 120 years had to move because of road works caused by the earthquake recovery. He stated, “We just stood up and dusted ourselves off and started again.” This statement also shows persistence. In this research, persistence refers to ongoing efforts to recover the business.

First level coding also revealed another similarity. For example, Retailer 18, a photography business, had to relocate because the building was damaged in the earthquake. The owner had problems with her insurance claim. She showed a positive attitude to these challenges: “You just pull up your bootstraps and take each day as it comes and do the best you can every day”. Likewise, Retailer 12

displayed a strong “never give up” attitude. This business owner had to face reduced customer footfall. He mentioned, “giving up is not an option.”

Many of the business owners displayed a positive mind-set during the interviews. Representative quotations are provided in Appendix D. The business owners were positive about their future, despite facing desperate times. The interview subjects displayed optimism during the interviews. Although the earthquake brought many challenges, business owners’ optimism was a distinct feature.

For example, Retailer 09 is a pharmacy which had to close the business for only one the day and relocate to a nearby location. He was looking after his business after the earthquake and performing a civic role in the community, checking that everyone around him is also safe. Despite hurdles at work and managing different community roles and being a father, he remained positive. This is illustrated in the following quotation:

---

*“I’m very positive about what is going to happen going forward.” (Retailer 09)*

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Similarly, Retailer 12 is a dairy owner. The earthquake created chaos in the dairy shop. The liquid, from products such as milk bottles and cold drinks, was spilt all over the floor. The dairy was closed for one day. The owner decided to open it for the customers after one day cleaning as the owner was concerned that the customers in the locality will not have any other convenience shop available nearby. With the supermarket closed for an unknown time period, the decision by the owner was a relief for the community. Alongside, the business owner was dealing with operational challenges with no or intermittent power availability which added to the hassle. Despite all the obstacles, the business owner hoped for everything to be all right after a while.

---

*“I hoped it is going to be good because I pictured a lot of positive things in my mind [about my business]” (Retailer 12)*

---

There are several examples in the data which show the owners’ positive attitudes (see Appendix D). Looking forward and thinking about the future was one of the aspects that kept the businesses going.

“Good rays of hope” is an In Vivo code, which depicted the extent to which business owners were positive about their businesses and the surroundings. Retailer 03 used this term during the interview.

While acknowledging the disaster, with all its challenges, this term acknowledges the new horizons:1) good rays of hope for the interviewed businesses and 2) good rays of hope for the community.

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*“There are good rays of hope in that. And there are lots of bad points as well. And that is the good point. That brought a lot of understanding in the business community and community as a whole. Like you got to know your neighbour’s better and the people around you. With the happening of the earthquake you learn to share meet people and their thinking as well, which a good thing is. It brought a lot of communities together. So it was a good shared experience.”*

*(Retailer 03)*

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The businesses were hopeful for a better future after they had been through the worse situation possible. They have accumulated the experiences of one (or, for some businesses, two) disasters. But the challenges owners expressed as a result of going through the hardships of disasters reflected how their mind-set dictated their thinking and attitude. Retailer 05 had a lot of issues with road works and construction outside of their building. Traffic jams and parking caused significant issues for the business. After careful analysis, the owner decided to move away from the city centre to a suburban area. While they had reduced customer footfall they saved money on rent. Overall the business owner remained positive about the outcome:

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*“So the story for us with the earthquake has been not just survival but it’s been a positive thing.” (B2B 05)*

---

I believe that the business owners’ optimism enabled them to remain positive in the post-disaster environment. Owners also expressed feelings of gratitude and contentment.

**Gratitude:** The businesses compared their situations with the others in the same business or friend circle. Many believed they were far better off than others or they were lucky in comparison. Only a few felt worse off than others. In short, most owners were hopeful because they were better off than many around them. This feeling of gratitude added to their positivity. Retailer 04 showed the gratitude even the owner needed to relocate to her garage to carry on with the business. She felt that the business was far better off than those who had had to cease the operations. There are multiple instances shown in Appendix D.

**Contentment:** The owners were happy and satisfied with how situations turned out for their businesses. In this thesis, contentment is defined as the state where businesses accepted their fate and ran the business without any regrets. Their state of mind kept them positive and relaxed.

The businesses such as Retailer 05 and Retailer 18 agreed that although the immediate period after the earthquake was difficult they have moved on and had nothing to complain about. While there were some aspects they could control, there were aspects they could not. Therefore, the owners decided to stay calm and work for the betterment of their businesses.

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*“You do what you do. You do what you've got to do. You can always do things differently. You can always find out when you've done something that perhaps there was an easier way of doing it or a cheaper way of doing it. But you've done it so it doesn't really matter.” (Retailer 05)*

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Both of these quotations show that at the time of the earthquake, owners were making decisions related to various aspects of their business. They were content that they had put their best efforts into recovering their business. They could have made different decisions, but did not, because they had to deal with the situation at hand and were concerned with getting their businesses back up and running. In short, they might have made different decisions in hindsight but, but were content with the overall outcome:

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*“We never feel that we didn't do the best that we possibly could. We are happy in ourselves that we did the very best for everybody. Yeah, that's the only way I can describe it. So we've never had any regrets on that score. Regrets about how it could have been different if other things had been different, yes, but not anything that we actually had any control over. No regrets about the things that we had control over I guess that's the best way to put it.” (Retailer 18)*

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Another sub-category was evident in the data: the owners' self-belief or believing in their abilities and a can-do attitude. While the situation was challenging, the owners believed they had the skills, abilities and attitude necessary to overcome any difficulties. Appendix D contains quotations from the transcribed interviews. For example, despite having the issues with damaged machinery and an unusable building, Retailer 15 remained calm: “We need to be strong in ourselves and believe that we

can fight any disaster”. He had great belief in his strength. This quotation was coded as belief in one’s own ability, a holistic code. This code indicates the intensity of belief business owners had in themselves. This emerged as a significant theme. The following table provides other quotations as evidence.

Comparison of the initial codes revealed some similarities. One example was Retailer 20 whose business was majorly impacted by the earthquakes. The building had to be evacuated because there were cracks in the structure. Friends helped her to realise that the building was not safe to work in. The owner decided to move temporarily to a new location. Although she had to make a risky decision she had a strong attitude to dealing with the disaster. She stated, “I’m a big one ‘live each day to the fullest’ and if that happens, then I will deal with it”. This shows how confident she is about dealing with situations as they happen. This is like Retailer 21, who was faced with a lack of customer footfall: “I think the struggle of business actually makes you stronger. At times it’s not nice, but it actually makes you stronger”. Both comments demonstrate the business owners’ self-confidence. These business owners believe that they can deal with future challenges. This is an abstract way of explaining how these businesses dealt with the situation. There are other similarities including self-confidence, believing in one’s abilities and courage, which are evident in the interviews. The business owners believed that they were capable of facing and adjusting to an adverse situation.

By analysing the first level/initial codes, it became evident that there were three main sub-categories for the broader ‘mind-set’ category: persistence, self-belief and optimism. Table 6-3 shows how the first level codes were condensed into pattern coding, and the sub-categories were formed through the secondary coding to further reduce the data.

<b>First level coding (In Vivo, Holistic, Descriptive, Process)</b>	<b>Second level coding (Pattern coding)</b>	<b>Sub-categories</b>
Determined attitude	Never giving up Persistence Moving ahead Persistent attitude	Persistence
“never gave up”		
“carried on”		
Persistence		
Keep going forward		
“Move on”		
Never giving up		
“I never give up”		
“Stood up and dusted ourselves”		
“could not look back”		
“start again”		
“I am very positive”	Positive thinking Optimism	Optimism
Staying positive		
Optimistic		

First level coding (In Vivo, Holistic, Descriptive, Process)	Second level coding (Pattern coding)	Sub-categories
"Goods rays of hope"		
"good things come sometimes"		
good things to come, positive about the future		
Hope, positive thinking		
Strong attitude,	Dealing with difficulties	Self-belief
Experienced some worse circumstances	earlier	
Belief, the strength of character	Experienced worse	
Courage		
"I will deal with it"		
"it would come right"		
"Good at what I do", Confident about own abilities, self-confidence	Having confidence in own abilities	
Believing in abilities and hard work	Having faith to deal with problems	
"I knew I could build it up again"	Exhibiting coping behaviour	
Belief in the abilities		

**Table 6-3: Development of pattern coding and sub-categories**

It was evident, based on the above analysis, that there were three sub-categories which define business owners' 'mind-set.' They are related to moving ahead, believing in one's own abilities and having an optimistic attitude. The following section provides detail about these three subcategories.

#### **6.2.4. Persistence**

Persistence is defined by constant effort and continuing with the business despite difficulties. The interviewed businesses had a never give up attitude. Retailer 04 showed a unique level of persistence. Their business premise was inaccessible after the earthquake. The business was relocated from a busy commercial street to a residential suburb. The business' premise in the city centre was damaged, so the owner started working from her home garage. The level of persistence can be seen in the following quotation:

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*"And everyone here was surviving too. We thought why we should be the exception we will try and then see where things lead us." (Retailer 04)*

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Although the business owners were dealing with many challenges, they kept a determined attitude. The business owner looked at the people around her and perceived her situation was much easier compared to other businesses. Her son asked her to shift to another city, but she decided to stay in

Christchurch because she had her network and business in the city. Based on her analysis of the market and seeing that not many people from her circle moved, she decided to stay. In short, she was determined to face the challenges posed by the earthquakes.

Persistence is working towards one's goals wholeheartedly. The business owners displayed great focus in their recovery efforts. The business owners wanted to improve their businesses because they were committed to them and having a sense of routine. Persistence is part of the broader 'mind-set' category.

While many of the businesses had a lot of difficulties, they kept their focus on the future. All business owners had the option to quit but chose not to. The never quitting attitude kept the businesses on the path to growth. A family-owned business, Retailer 19, kept their focus on the future. The owner felt that if they started to look back, they would never move ahead. In short, the business owner felt that there was only one way, and that was 'forward':

---

*"I took the attitude I just had to keep going forward even if it was just little steps.  
I couldn't look back." (Retailer 19)*

---

The business owner was practical and knew that they needed to focus on small steps. The owner not only maintained business operations but also built a new building during the process. The business grew after the earthquakes.

Moving forward is a part of 'persistence' which is one aspect of the business owners' 'mind-set' category. It is related to the business owners' willingness to focus on desired outcomes. It means trying to achieve the desired goals, even when faced with challenges; sticking to the business' values and objectives. This is defined by the level of persistence and perseverance of business owners when businesses are dealing with obstacles. It is described as a force of the business owners in continuing the business, setting the direction straight and remaining committed to the business. The business owners decided to work harder than before, to stick to the business objectives and did not accept failures or obstacles as their fate. They saw these obstacles as learning points. They tried to minimise the damage and keep on working for the recovery of their businesses.

The owner of Retailer 07 experienced damage to both the business premises and her home. Even though she was struggling with business challenges, she kept assuring herself that there is always a way out of the problems:

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*“From the beginning I never gave up, just think how can make it going.” (Retailer 07)*

---

She was composed, calm and portrayed a firm attitude and as a result, was able to keep the business operational. The owner immediately led the business on the recovery track immediately after the earthquake. She ended up managing four different locations and grew her customer base.

The businesses had a ‘fight or flight’ choice. Many of the surrounding businesses closed or relocated to new locations. Despite dealing with the psychological trauma of the earthquake, the business owners decided to forge ahead. They understood that if they were determined and worked hard, the hard times would pass, and situations would get back to ‘normal’. Their determination and never quitting attitude demanded a composed outlook by the business owners. Despite the challenges, hurdles and problems, the business owners were unruffled. Their aim was to remain open. The business owners were able to achieve this by staying focused on the future and not getting distracted by the hurdles and challenges. These examples show the ‘persistence’ subcategory of business owners’ ‘mind-set’ in the aftermath of the earthquakes.

#### **6.2.5. Optimism**

The business owners’ optimistic attitudes were one of the prominent emergent factors in the data. One interesting aspect is that the owners were optimistic even before the earthquakes. It was not something that they discovered afterwards. Optimism is an enduring belief that stays with the person even when facing a problem. It is their general way of dealing with life, and particularly, when faced with challenges. Being optimistic requires keeping a positive mind-set in any situation.

The optimism theme identifies some desirable personality characteristics for SME owners. It describes the business owners’ belief that good things will happen in the future. The more the business owner feels good about the future, the greater the level of optimism. The respondents displayed a positive attitude. Their optimism and hope drive a futuristic approach by the owners about the business and its recovery. This attribute enabled the businesses to recover quickly. This enabled the business owners to never lose hope, and to feel better about their futures regardless of the troubles many were facing.

Many of the business owners displayed optimistic thinking about life in general. In short, this is not an event-specific characteristic. Being optimistic requires keeping a positive mind-set in any situation. For

example, despite having to relocate, Retailer 04 remained positive about her business and felt stronger after the earthquake.

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*“We cannot forget the experience we had at that time. It is always in our mind. I hope that if there is something else some other difficulty it will make us stronger. Now I'm not afraid of earthquakes.” (Retailer 04)*

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In the research, an optimistic attitude outlines the business owners' positive approach to the disaster. It is about expecting better future outcomes in the face of a disaster. The owners were hopeful about the future of their businesses, growth and different business avenues. The business owners kept hope alive in a time of crisis. No matter how bad the damage, owners kept their spirits up through positive thinking and anticipating a brighter future. This sub-category was developed using codes such as being positive, 'good rays of hope', 'far better than others,' '[feeling] happy how it went', and 'being content' with what has happened.

Another positive aspect is how owners saw the business environment and society overall. Those interviewed acknowledged that the earthquake brought people's values back. Prior to the earthquakes, many were so busy that they forgot their friends and neighbours. But they noted that the earthquakes brought people together.

#### **6.2.6. Self-belief**

Self-belief refers to an individual's belief in themselves; that s/he has the ability to deal with any challenges. The business owners felt that the earthquakes created a lot of challenges to deal with, however, they kept on believing in their own abilities. The businesses in this study showed that they had the willpower to overcome great challenges.

This is evident in the example of Retailer 11, a café located in the central city. The café premise was not only severely damaged due to the earthquake but also, customers socialising at the time of the disaster were injured. The café owner helped customers to get out of the damaged building. He then had to close the café for reconstruction and maintenance. Even after the café was reopened, there were accessibility issues due to ongoing road works. The business owner showed psychological vigour by accepting these challenges and moving forward. He noted that being an immigrant had provided him with a set of skills which meant he could deal such disruptions. In short, the owner felt confident that he would cope with the challenges presented by the earthquake. The following statement by

the owner is very contextual, as the he believes that he has experienced worse situations in his country prior to moving to New Zealand. Thus, the point here is about the belief in one's abilities:

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*“It was a tough time. But for me, it was really not that bad. We have seen like this back in India, it is a routine for us.” (Retailer 11)*

---

Similarly, the owner of Retailer 08, who operates is a café, showed psychological vigour. Other than operational issues, the customers were reduced due to being scared about aftershocks hassles caused by ongoing road works. However, the owner took the initiative to relocate the café and started again. He displayed a strong attitude and willingness to continue, regardless of the difficulties:

---

*“I think when you have problems you just have to face your problems and try to deal with it.” (Retailer 08)*

---

These two quotations show that the business owners' perceptions played a huge role in moving forward. The belief in one's own abilities when the times are difficult enabled the interviewed owners to re-establish their businesses after the earthquakes. Psychological vigour is also related to optimism, as business owners with higher vigour, will have more positive feelings about the future to come. It must be noted that categories or subcategories do not work in isolation. The distinction has been made to increase understanding. But these categories are related and work in an accumulative way.

In this study, self-belief also appeared as understanding the full extent of one's abilities and how these abilities will help the business owner to recover their business. This is an assessment of their competency to deal effectively with the future. It is related to an owners' belief in their abilities and resources. The business owners were confident and knew they had the abilities they needed to grow their businesses. The combination of personal, as well as operational abilities, enabled the business owner to overcome the challenges.

For example, the owner of Retailer 05 was confident that she could make it right. The business had to relocate to a nearby location and struggled with her insurance claim and obtaining a government subsidy. The owner had to work part-time to pay for her personal expenses but she did not quit because she believed in herself:

---

*“I didn't think of doing anything else. I knew I could make this. I started up with nothing. I knew I could build it up again” (Retailer 05)*

---

Similarly, the owner of Consultant 01, displayed self-confidence about his skills and abilities. He was quickly realised the situation was going to be devastating for his business. He tried to quickly tap into different consultancy avenues, such as website development and waste management. He was able to identify different options to ensure the business recover because he believed in himself:

---

*“I think one is a sense that I am quite good at what I do.” (Consultant 01)*

---

These two examples show that business owners' thinking played a critical role in their success. This is related to self-efficacy, a characteristic which allows businesses to prepare for the worst situation. These businesses believe they determine their own destiny.

Self-belief represents the strength business owners showed after the disaster. Business owners' self-belief enabled them to remain calm during difficult times. Courage and valour were also crucial for the recovery process. Believing in one's own capabilities, having a strong attitude and a 'can-do' attitude were also important. Self-belief is about believing that one has got the capacity to recover a major setback. The cases in this research showed a higher level of self-belief. B2B 05 is one example of this. The business had to relocate of ongoing road works which was affecting the business. The business owner believed that he was able to start again in a new location. Even before the earthquakes the owner was prepared to deal with an uncertain situation:

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*“This business could probably continue to operate for nine months or a year with no orders coming in at all. We wouldn't do that. We would take action. But we could if we had to” (B2B 05)*

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One aspect that the business owner was concerned about is that they had operated in the same location for almost a century. The business owner did not want to lose his customers because he moved locations. In fact, the customers appreciated the move and stayed loyal to the business. In the end, the business ended up saving a huge amount on rent which meant that their profits increased, and they were also able to tap into a wider market due to the new location.

Self-belief is important for achieving business targets. The realisation of one’s own abilities leads to self-efficacy which enables a confident mind-set. The business owners were focused and faith in their abilities. The owner of Construction 02 had little related experience. But he believed that he would be able to perform well in this industry. This belief led the business owner to test, improve and implement his talents and abilities:

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*“Even though I wasn't trained as a builder I was quite handy with fixing things and doing things up and painting” (Construction 02)*

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The business owners who were confident in their abilities, future, and the resources they had were ready to recover from the crisis. The basis of assessing self-efficacy is indicated by how the business felt about their specific resources and capital they owned. Self-belief is a unique characteristic that shows the way owners perceive their business and surroundings business. It involves having a can-do attitude to overcome obstacles.

### 6.2.7. Category 2: Mind-set

The above discussion of three sub-categories, persistence, optimism and self-belief, are part of a broader category: “mind-set.” In this research, mind-set defined as positive thinking, moving ahead and having faith in one’s abilities. This is shown in Figure 6-2.

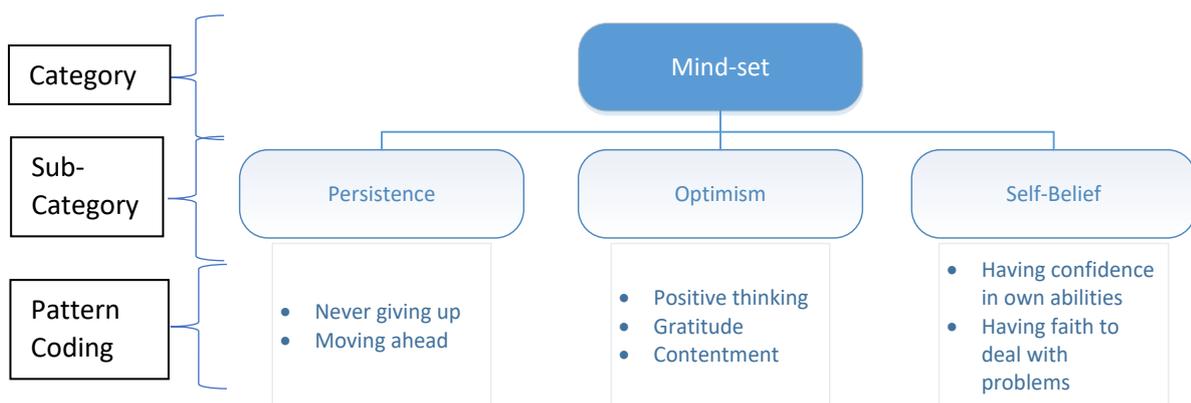


Figure 6-2: Mind-Set: persistent, optimism and self-belief

## 6.3. Theme: Cognitive framework

Having a strategy which outlines the business’ operations and planning for the future is essential. However, there are personal aspects which helped business owners to continue during difficult times.

These are more abstract characteristics. The cognitive framework is the first and most crucial element in business recovery. It is comprised of psychological, emotional and softer aspects which compelled the business owners to keep going despite significant difficulties.

The cognitive framework is comprised of two main categories, which have already been explained in this chapter. These are mostly related to business owners’ personalities. Table 6-4 summarises these categories.

Categories	Motive	Mind-set
<b>Definition</b>	<p>... is internal and external stimulus for the business owners’ decision</p> <p>... is the level of work involvement</p>	<p>... is the force to carry on with the business</p> <p>... is the magnitude of the business owners’ belief in own abilities</p> <p>... is seeing a positive outcome, regardless of all odds</p>

**Table 6-4: The summary of categories of cognitive framework**

These are the vague and hidden perception patterns that shape business owners’ approach towards the disaster. This section identifies how the cognitive framework enabled businesses to recover from the earthquakes. This is the development, verification and modification of the ‘mind-set’ theme that was established in the initial model. The business owners’ strategic thinking and interest were modified to create these two categories.

The cognitive framework combines abstract and softer aspects (how business owners look at life in general and how they deal with problems/ crises). It includes the way that businesses think, perceive a situation and envisage their businesses. It defines the businesses’ overall approach to crises or difficulty. For example, the owner of B2B 02 realised quickly that there is no way to reverse the earthquake damages. The office had major cracks on the floor and was therefore unsafe to work in. But the owner kept a positive attitude and kept looking for good things:

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*“Look at the bad things, good things come sometimes too.” (B2B 04)*

---

The cognitive Framework includes personal attributes and ways of thinking, beliefs, interests and attitude. These attributes are associated with business owners and explain the business owner’s ability to cope with disruptive situations.

Similarly, Consultant 01 showed an interest and passion for their business. The business was well established before the earthquake and doing project-based work for various companies. The business flourished because of work related to the earthquake. Asking why the business chose to carry on, Consultant 1 responded:

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*“I always had, right from when I was a kid, I had an interest in IT” (Consultant 01)*

---

The cognitive Framework is specific to the owners or managers. These softer aspects define how the person is going to behave in times of crisis. For example, a person with a positive cognitive framework will remain calm, even when there are limited resources. In contrast, a person who has a less positive outlook (even one who has more resources) will not use those resources effectively. The cognitive framework defines the core actions of the business and its growth. Therefore, it is the overarching theme in this theory.

The cognitive framework includes the hidden aspects of the business owners’ mind. Every individual has been shaped by their life and experiences. Events like an earthquake or any other disaster do not alter it hugely. It takes a higher level of will to alter or change the cognitive framework. This thesis argues that although the cognitive framework is hard to change, nevertheless, the ability to change one’s ideas or beliefs is entirely up to the individual. For instance, Retailer 11 had been running the business for almost ten years and was unwilling to move into a different industry or work for someone else:

---

*“I have worked for 10 years almost for myself, so working as an employee is not an option. My habits and attitude are not like that now. I cannot be time bound. Restrictions... I cannot handle those. So that’s the main thing [to do business].”*  
*(Retailer 11)*

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#### **6.4. Application of the cognitive framework**

The cognitive framework was crucial for business recovery and growth after the earthquakes. The cognitive framework includes positive thinking, staying determined and showing courage in dealing with a difficult situation.

Table 6-5 compares businesses based on the cognitive framework. As is evident, business owners who believed in their abilities were persistent and fully motivated. They were able to see opportunities in this disaster. They enjoyed doing overcoming challenges, and expanded their products/services and did not lose hope when they failed.

These challenges and opportunities created a new business environment. The decision to choose to fight, is the core aspect of running the business, in an unusual business routine. There were constant battles with insurance, declining customers number and ongoing issues with road works. Displaying a persistent attitude was key to keeping the interviewed businesses operational. The businesses had a goal to achieve. They were just trying to recover their businesses and return to a state of 'normal.'

Before comparing the businesses in terms of different aspects of cognitive coping, there are a few aspects which first need to be explained. The businesses are scored on their performance related to their outcome, how they perceived their earthquake experience and how much they saw opportunities in the disaster. The following section will explain how the outcome was defined and represented in the analysis. It also explains the perception of the earthquake as a catalyst helped businesses to recover or thrive in a challenging environment.

#### **6.4.1. Outcome**

The outcome is subjective to the interpretation of the owner and relative to the industry in which the business was operating. The business outcome was analysed based on two criteria:

1. The stated impact on industry-wide profitability, customers and expansion
2. How the business owner feels about the overall performance of the firm, how happy, satisfied and content the owner is with the overall performance of the business.

##### **6.4.1.1. *Stated business profit***

This business outcome is based on owners' statements, or information about their profits after the earthquakes. This is related to opportunities provided by the earthquake. The interviewed businesses were primarily cafés, dairies, restaurants and those in the construction industry. Reasons why these industries experienced growth are explained below.

- **Industry grew**

As there were countless homes, business and infrastructure that was damaged, it is not surprising that the construction industry grew. EQC gave tenders and businesses who were in, or at least related to

construction, experienced a boom. Many businesses capitalised on this opportunity. Construction 02 and Construction 03 clearly depict these growth trends.

- **The temporary need of the customers**

In terms of restaurants, people changed their habits for a short time because there were water and electricity issues. Many ended up eating from cafes and restaurants. This sector also saw growth. Those businesses which were in the CBD, struggled because some buildings were inaccessible. Those which had access to their premises and were not red-zoned, experienced growth in sales due to higher demand. The suburban restaurants also experienced growth or returned to a stable position quite quickly. Retailer 07, Retailer 11 and Retailer 12 are examples.

- **Relative to the industry**

The outcomes are highly related to the business sector in which the business was operating. There were industries which eventually experienced growth. There were some industries with less room for the business to grow such as selling luxury goods, were not the best-selling after the earthquakes; because the people were consumed in dealing with the basic and routine functions/needs to run their days. Therefore, businesses either needed to be content with their business sector and nature or change their business entirely. As has been previously mentioned, almost none of the interviewed business changed their business setup up altogether. For example, Retailer 06 and Retailer 18, both photography related business experienced a notable decline.

#### **6.4.1.2. Personal satisfaction**

Personal satisfaction played a huge role in how the business owner felt about the business overall. The business, though not performing as it used to prior to the earthquakes, is providing enough for paying the bills. The business owners just wanted to earn enough to live on, rather than working for someone else. The owners were happy to make compromise with how the business is running and were satisfied with it. In short, they were happy to have less to live on as long as they were able to keep working for themselves.

- **Second family income**

There are a few reasons why business owners felt this way. The businesses were adding some extra money to the family income; in short, it was not the family's main source of income. Other family members were employed or earning money from different sources so there was pressure on the business owners to perform better in terms of profits. In other words, the businesses were making enough to cover their costs and not incur any losses. Some were interested only in maintaining their

businesses as part of their lifestyle. For example, Retailer 04 wanted to keep her business but was not interested in growing it. Her husband was earning a decent wage and she was relaxed because her income was just topping up the household budget. This meant that the owner was not stressed about making huge profits. In short, the business was not the family's sole source of income.

- **Work-life balance**

Another reason is related to personal learning from the earthquake. Many realised that there is no end to the desire to grow more. For many, work-life balance was more important than increased income. The businesses have learnt to value work-life balance. The businesses were earning enough to provide a decent standard of living and allow owners to spend time with their families. This is subject to the level of income because they are earning enough to live with peace of mind. For example, Retailer 18 saw the business as a lifestyle, was content with the current income and had no desire to grow. As the owner has no desire to earn more money, the business did not pursue other opportunities.

#### **6.4.2. Perception of disaster**

The earthquakes, similar events, was perceived differently by the SME owners; either seen them as catalyst or catastrophe.

##### **6.4.2.1. Why catalyst?**

For many of the owners, the new environment simultaneously brought challenges and opportunities. They experienced the earthquake as a trigger point for change. It is about how the businesses approached the change. Some appreciated the fact the earthquake provided the opportunity to explore new things and improve businesses processes. In short, some saw the earthquakes as a catalyst. Even though it brought many challenges such as road closures, decreased footfall and depopulation, it also created new opportunities. The owners acknowledged that although it was challenging, the businesses found themselves in a better position after the earthquakes, hence perceiving the earthquake as a catalyst.

Some of the businesses were able to recognise opportunities provided by the earthquakes. Their approach to the situation was unique and involved finding the best way to converting the challenges into advantages for their businesses. The determined owners saw the whole situation as a challenge. They were ready for the things that were unfolding in front of them. As they were so determined the challenges were minor compared to their courage, persistence and positive approach.

### 6.4.2.2. Opportunities

The businesses were presented with opportunities because of the industries they were in, where they were located, increased demand or the community wanted to support the business (Figure 6-3).



Figure 6-3: Four types of opportunities

**Industry-specific:** Construction and consultancy businesses experienced greater demand as a result of the earthquakes. Construction businesses were busy repairing damaged buildings. There was also a greater need for people with rental properties and those businesses which offered painting, plumbing and similar services. Some business owners who were too quick to hire new staff and expand, later had to downsize when the work decreased.

**Demand specific:** Some businesses experienced a different level of opportunity as their rival businesses went out of the market and customer started to come to their shops to buy goods. Unlike industry opportunity, there were businesses which experienced increased demand.

**Location Specific:** Many businesses were damaged in the city centre which meant that business in the suburbs began to attract more customers. Location was an advantage for businesses located outside of the city centre.

**Community specific:** Close-knit communities like Redcliffs and Sumner are relatively separate from the main business district of Christchurch. The community wanted to have as 'normal' life as possible after the earthquake, thus they supported local businesses to ensure they recovered.

### 6.4.2.3. Why catastrophe?

The business owners described how they felt about the overall earthquake experience. A few of the owners saw it as a catastrophe because the struggle was much higher than the return they received.

Their businesses profit margins were much lower than before the earthquake. These owners thus became dissatisfied. Another reason was that they saw people around them suffering as a result of the disaster; the entire community was affected by the earthquakes. So, even though the business owners were able to recover their businesses, there was a collective toll. In sum, they perceived the earthquake as a catastrophe due to the impact of it on the wider community. In summary, these perceptions also played a role in the business owners' cognitive frameworks. Figure 6-4 summarises the perception of disaster.

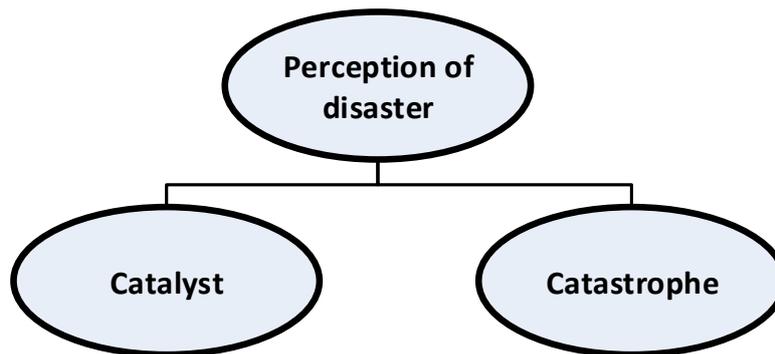


Figure 6-4: Perception of disaster

### 6.4.3. Cognitive framework score and application

Table 6-5 compares outcome, perceptions of the earthquake as a catalyst (or not) and the two categories of the cognitive framework. A scale is provided to show how these aspects were measured.

**Cognitive framework**

		Outcome	Catalyst	Motive	Mind-set
10	Consultant 01	4	4	4	4
11	Construction 02	4	4	3	4
12	Construction 03	4	4	4	4
13	Retailer 04	1	1	1	2
14	Retailer 05	3	0	4	3
15	Retailer 06	1	1	1	2
16	Retailer 07	3	0	4	3
17	Retailer 08	4	3	4	3
18	Retailer 09	3	0	3	4
19	Retailer 010	4	3	3	3
20	Retailer 011	4	4	3	4
21	Retailer 012	4	0	4	3
22	Retailer 013	3	0	3	3
23	Retailer 014	3	3	2	2
24	Retailer 015	2	1	1	2
25	Retailer 016	3	3	4	3
26	Retailer 017	3	3	3	3

### Cognitive framework

		Outcome	Catalyst	Motive	Mind-set
27	Retailer 018	1	1	1	1
28	Retailer 019	4	4	4	3
29	Retailer 020	4	4	4	4
30	Retailer 021	4	4	4	4
31	B2B 04	4	4	4	4
32	B2B 05	4	4	3	4
	<b>Scales</b>	<b>Outcome</b> 1= Declined as a result 2= No impact 3= Declined but regained 4= Flourished			<b>All of the themes and catalyst*</b> 1= Very Low 2= Low 3= Moderate 4= High *additional score for catalyst 0= Indifference

**Table 6-5: Cognitive framework score**

The cognitive framework is important because it is directly linked to business outcomes and how the business owners perceiving the earthquake overall. The ability to persevere led most of the businesses to flourish and thrive.

The overall cognitive framework explains how businesses were able to bounce back after a disaster. It has two major elements: 'motive' and 'mind-set'. 'Motive' explains likeness and passion. The more passionate the business owners are about their business, the greater their 'outcome' score will be. Commitment is the motivational source which enables business owners to continue with business operations. Likewise, a higher 'mind-set' score represents a higher outcome. It is important to note here that 'motives' are human characteristics, which are play a core role in business recovery. Figure 6-5 shows that the outcome is directly linked to these cognitive coping categories.

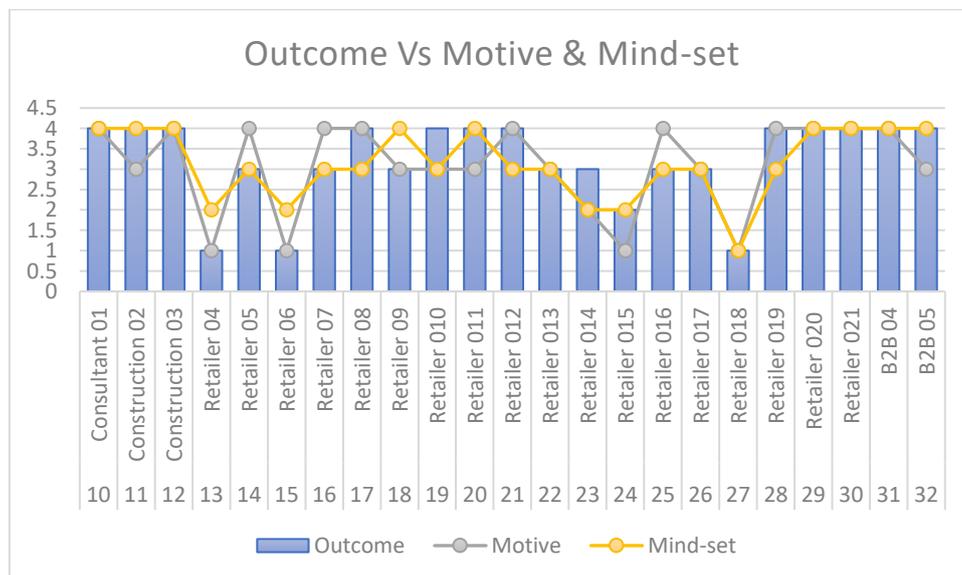


Figure 6-5: Outcome Vs. motive and mind-set

#### 6.4.4. Reasons for lower performance scores

As can be seen, a higher score in these categories, especially in commitment to business and moving forward, is reflected in a high performance after the earthquakes. Four businesses had lower scores in two important categories. I wanted to dissect the case again to understand the underlying reasons for these lower scores. The following section discusses why these business owners did not score well in the categories which makes up the cognitive framework.

##### 6.4.4.1. Retailer 04

Retailer 04 is a unique case. The business owner was very persistent, optimistic and dedicated on a personal level. In terms of her business, she wanted to have calm and stable. She started the business because she was very passionate about her work. She also gained experience in a related field. Her beauty salon was one of the first saloons in Christchurch to use traditional beauty techniques common to India and Central Asia.

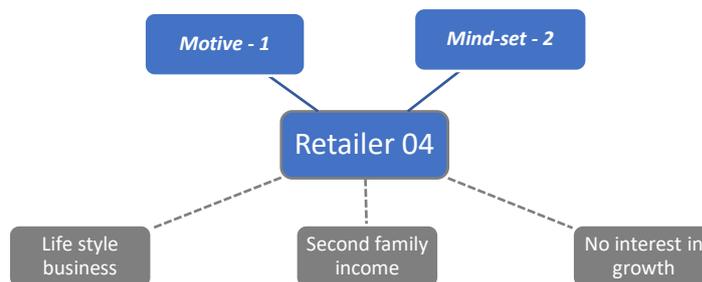


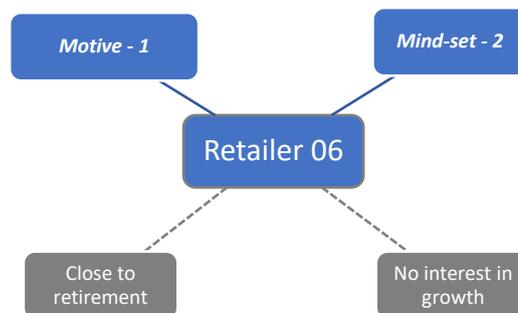
Figure 6-6: Retailer 04 – Scores

After the earthquakes, the owner remained composed and calm. The business owner also helped a lot of her friends, offering some a place to stay after the earthquakes. She had no interest in growing her business and has not improved her business after the earthquakes (thus she was given a low motive score). She started her business from the garage of her home, but was not concerned with the reduced footfall (low mind-set score). Her husband was the family's main income source, so she did not feel any obligations to earn more money (low motive score). She chose not to continue the growth of her business after the earthquakes (low mind-set score). If the business owner is not willing to take the business on a growth path, there is a possibility that the business will stagnant or decline (Figure 6-6).

##### 6.4.4.2. Retailer 06

Similarly, the owner of Retailer 06 was not interested in growing the business (low mind-set score). As a specialist in the camera repair business and one of the oldest in Christchurch, meant he had a good reputation. He had owned the same business for nearly four decades before the earthquake. Prior to starting his own business, he was working for a company in the same field. He fully believed in his abilities. Despite this, he could not maintain business profits and growth in the aftermath of the earthquake due to a lack of personal interest and persistency (low motive and mind-set scores).

He was just maintaining his pre-earthquake sales by repairing cameras and other appliances. Although he mentioned being active and enthusiastic on a personal level, he just wanted to make enough money to pay his bills (low motive and mind-set score). Another reason was that he was close to retirement and did not want to do much for the business (low motive score). Therefore, the business owner's choice hinders the developed cognitive framework aspects to fully capitalise for the business (Figure 6-7).



**Figure 6-7: Retailer 06 – Scores**

#### **6.4.4.3. Retailer 15**

This business is a dairy in the city centre. The earthquakes caused major disruptions due to intermittent power. The business owner was personally very optimistic, grateful to the community and the support which the government had provided. At the same time, however, he wanted the business to settle down have a less cluttered life at that point (low motive score). He was not interested in growth, only people. Regular and local customers were coming and buying from him (low mind-set score). He did not try to improve marketing or business sales. Nearing his retirement, he just wanted to provide enough income to cover his family's expenses (low motive and mind-set score) (Figure 6-8).

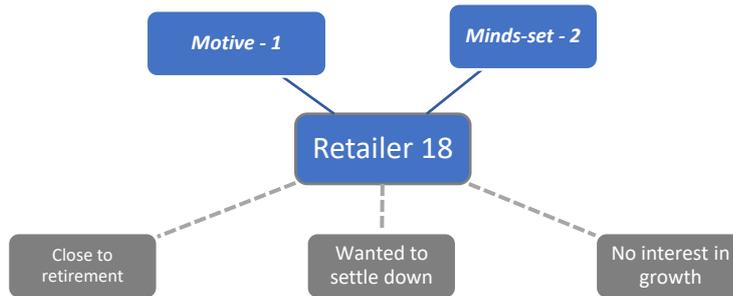


Figure 6-8: Retailer 15 – Scores

#### 6.4.4.4. Retailer 18

Retailer 18 had a good name in the photography and event coverage market. The owner wanted to settle down and not think much about the business (low mind-set score). The owner felt exhausted as a result of the struggles associated with the earthquake. The business owner wanted to have a stable, calm life (low motive score). The owner also did not want to keep on worrying about the business and its customers. She was happy with the current customers and the level of work (low mind-set score). Hence, the business owner's choice and interest in growth are a major part of the cognitive framework (Figure 6-9).

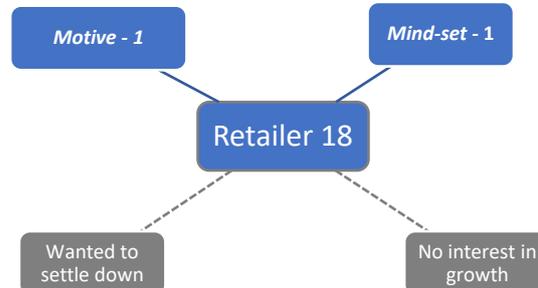


Figure 6-9: Retailer 18 – Scores

## 6.5. Conclusion

Cognitive framework is a vital aspect of the recovery for SMEs. It defines the thinking ability of the business owners which gives them persistency, positivity and self-belief to carry on with the business activities regardless of the challenges they were facing. The cognitive framework was used to score each business, to illustrate how committed the owners were in terms of their business. As all the interviewed businesses carried on after the earthquakes, it is not surprising that most received a good score on the cognitive framework. Business owners' future-focussed attitude, passion for their businesses, optimism and self-belief enabled them to recover their businesses. The cognitive framework explains owners' ability to think and act in a certain way.

The cognitive framework increases the strategic thinking of the business owner which ultimately help the business owners to stay calm and composed in the period after the Canterbury earthquakes. Business owners' unique characteristics are what helped them to recover. Quick but rational thinking increases one's chances of success. There are many examples discussed in this chapter which explain how owners were able to recover their businesses in an adverse environment. The cognitive framework focuses specifically on abstract ideas, thoughts and cognitive patterns. Chapter 7 discusses business owners' action orientations.

## **Chapter 7. Adaptive Coping Framework**

This chapter explores, in detail, the action orientation of small and medium enterprises (SMEs) during challenging times. This chapter extends the development of adaptability and adjustment which was introduced in Chapter 5 (the initial model). The analysis is conducted using the same grounded theory methods (Charmaz, 2014). This involved First Cycle coding and Second Cycle coding for all 23 interviews (conducted during the second phase of data collection). The coding was performed simultaneously with reflective memo writing. The grounded theory methods enabled me to investigate, in detail, the business owners' actions.

After the earthquakes, the business owners devised certain operational changes for their businesses, such as expanding their services, shifting their focus to other target markets, relocating and reducing costs. This showed business owners' the action orientation which enabled SMEs not only to recover after the earthquakes, but in many cases, thrive.

This chapter begins by exploring individual business owners' actions and decisions and how these impacted their business performance and recovery. After analysing the data, various categories were constructed, and a framework called adaptive coping framework was established. The framework consists of three major categories: (a) adjusting to the new condition, (b) learning and, (c) risk management. This chapter presents an overview of how these categories were formed, including a discussion on various constructs of each of these major categories. I compare various aspects of the framework using material from different interviews (within and across cases). The chapter concludes by discussing the relevance of this framework for business recovery and how the new adaptive coping framework compares with the initial theme.

### **7.1. Adjusting to the new conditions – an overview**

It was evident from the interviews that the business owners were continuously adapting to the new environment after the earthquakes and continually finding new ways to recover. The ability to adjust to the new environment and take rapid actions became crucial for business recovery. For example, the business owner of an air-conditioning installation company (B2B 04) analysed the whole situation very quickly. The February earthquake caused disruptions to routine business operations; there was no or intermittent water supply due to the damaged water pipeline in the area where the business was located. At the time of the earthquakes, the owner lived in a different suburb and started bringing a tank filled with water for the business use, to manage water shortages. The B2B 04 business owner's ability to respond and rearrange resources quickly ensured the continuation of business operations

during the response stage. Although this example shows a very minor adjustment to the business resources, it highlights the business owner's concern with providing a safe work environment for employees where they can work without worrying about their everyday needs:

---

*"We got a temporary water supply. And hooked that up... The water supply was an issue. So we just got a big tank. We filled it with water. And brought it in."*

*(B2B 04)*

---

Likewise, the owner of a crafting business (B2B 05) decided to immediately restore business operations to provide his workers with continuous employment. After cleaning and decluttering the premises, the business started operating the next day. Though the initial assessment of the premises showed some minor cracks on the floor, the business owner decided to continue normal business activities as these were not hazardous for the employees. This quick readjustment of business operations helped the business and its employees to quickly recover from the crisis:

---

*"What happened was the business got back up and running again. We didn't even bother getting the cracks in the floor fixed. There were just too few of them and*

*life went on" (B2B 05)*

---

Like these examples, analysis of the other interviews showed that most of the businesses dealt with the challenges by quickly reorganising business activities and adapting to the situation. The business owners' actions were analysed, resulting in the creation of the first category called "adjusting to the new conditions". It refers to a business owner's ability to adjust and act according to their new and dynamic business environment. Three distinct subcategories were evident in the data analysis: (a) immediate response, (b) gradual response, and (c) adaptation preparedness. These subcategories are time-based and relative to the uncertain event. For example, adaptation preparedness occurred prior to the disruptive event, immediate response corresponds to the actions taken in the first few hours or days after the disruption, and gradual response includes long-term actions (refer to Figure 7-1).

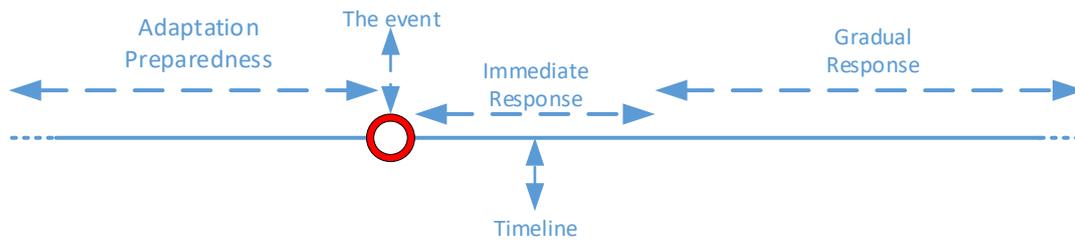


Figure 7-1: Adjusting – three categories (timeline)

### 7.1.1. Immediate response

The data analysis highlighted that immediate responses included quick and rapid changes business owners instituted to recover from the sudden impact. The immediate actions are the prompt activities business owners initiated after the earthquakes. Owners had to take these prompt actions to deal with various challenges and keep their businesses running. Additionally, these changes enabled the businesses to make life easier for important stakeholders, including employees and customers. For instance, retailer 05's building was massively damaged in the first earthquake. She quickly realised that the business was going to be in turmoil because of the damage if she did not act promptly. She had to act promptly because she realised that her damaged building would not be accessible in the near future. She quickly decided to relocate her business to a new location. She managed to get the stock and standouts ad shelves from the damaged building. These snap decisions gave her some peace of mind because she knew that she had saved some of her valuables from the damaged shop. She made the decision early in her recovery process and began looking for a new location. She was able to move in within two weeks of the earthquake and restart her business. Furthermore, she quickly communicated with her customers about her new location through phone calls and pamphlets placed in the old shop. Overall, she stated that these quick actions that enabled the business to recover after the earthquake.

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*“Well I was lucky because I could get the stands out. I could get my counter out. No, I didn't need to get a counter. The new shop had a counter. I could get my stands out, I got the stock out and just started up again.” (Retailer 05)*

---

Further, the data showed that it is important to take quick actions, and that business owners need to initiate business activities immediately after a disaster. For example, Retailer 12 experienced wreckage due to the earthquakes and the aftershocks. He started cleaning up the shop and clearing the aisles, cabinets and other places in the shop so that immediate work could be started, and customers could be better served:

---

*“The next day we started cleaning up. I have got drinks at the other side of the shop. There was mess after the earthquake. The fridges and cabinets opened and there was spillage everywhere.” (Retailer 12)*

---

These immediate responses were crucial for the businesses. Some of these responses and actions seem minor, such as cleaning the shop, clearing aisles or rearranging shelves. However, all these minor activities were beneficial for business operations, as well as for the business owners’ and employees’ well-being. These immediate actions gave business owners something to focus on, which in turn helped reduce the psychological impact of the earthquakes. The work provided them with a sense of achievement and something constructive to do. Constantly thinking about the impact of the earthquakes and sitting idle could have been counterproductive for the businesses as well as for the business owners’ psychological health.

Appendix E shows immediate response quotations from the interviews which support the theme of ‘adjusting to the new conditions’. This table also outlines the First Cycle and Second Cycle of coding. Second level coding led to the development of this category. In Vivo, Descriptive and Holistic codes are used.

### **7.1.2. Gradual response**

A gradual response refers to a stable and well thought out reaction, which starts right after the initial response. It enables a business to become operational and continue in its normal/daily activities. Once the business environment becomes stable, business owners have more time to consider the broader, future avenues and directions of the business. For instance, Construction 02 started to think about changing its target market: from student accommodation to workers’ accommodation which was in high demand after the earthquakes. The high influx of workers was due to the Christchurch rebuild project. After the immediate response, the business owner had time to think and evaluate his actions and gradually adjust to the new environment. Adjustments to the business’ customer segment were finalised after due consideration. The business owner’s gradual response enabled his business to adjust and grow as per the long-term market requirements. Here, it is important to mention that overall the construction industry in Christchurch grew massively due to demand (MBIE, 2017a). As a result of this, Construction 02 also flourished.

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*“Before, I was, but it was aimed in a certain area of town and it was aimed at the student market. So I was building as close to the university as I could and I was*

*aiming at students. After the earthquake, I didn't have to aim for the student market because there was just all these workers coming in from all around the world and they needed somewhere to live.” (Construction 02)*

---

Analysis of the data revealed that the gradual response requires modification of broader business practices, such as shifting target market, relocating, opting to use different communication channels or instituting major changes to business operations. For instance, B2B 05 is an example of backwards vertical integration. After the earthquakes, the business owner lost a supplier for a particular component. The business owner was forced to consider various alternatives. One option was to buy the machinery themselves so that they could produce the component. The business owner estimated the cost of making the material in his own facility. After a careful analysis, the business owner decided to start making the material in-house. The business owner bought the machinery which increased its over operational capability. These decisions enabled the business to gain some long-term advantages; 1) the business now produces that product in-house and can have greater control over the product quality; 2) it gives the business a flexibility to produce lean (that is, produce as much as they want with minimum waste):

---

*“We used to get slots cut into metal by an engineering place. The engineering place closed down and we said oh, well we need slots in metal and we started looking for somewhere else do it and one of my men said why don't we just buy a machine and we'll do it ourselves. We bought the machine and we do it ourselves and that's great. That was just brought about by the earthquake and we could have done it before the earthquake but we never thought about it.” (B2B 05)*

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A gradual response is distinct from immediate changes because business owners have more time to reflect on the situation, analyse and take careful steps. In contrast, the immediate response is more focused towards keeping the business running, getting up and starting over again immediately after the earthquakes. Secondly, during the gradual response, the business environment became more stable as compared to the highly uncertain environment which appeared immediately after a disruption. The data analysis showed that, following a disruption, a business' long-term recovery depends on the business owner's ability to make operational decisions after careful consideration of the business situation.

Appendix F provides examples for the 'gradual response' subcategory. The table enabled me to remain closer to the data while developing the categories or subcategories. This table also shows the First

Cycle and Second Cycles coding. The Second Cycle coding was translated into the development of this category.

### **7.1.3. Adaptative preparedness**

Adaptive preparedness refers to the business owners' attitude of continually looking for continually assessing the market and deciding what services/products to offer. The data analysis showed that some of the business owners were perceptive about market changes and were willing to adapt their services/products to meet market trends, even prior to the earthquakes. Some of the businesses in this study, demonstrated a proactive approach towards their business operations. This approach is different from the immediate or gradual responses as it existed prior to the earthquakes. Analysis of the data revealed that business owners who had adaptive attitudes were able to accept and adapt business operation better than those who lacked this attitude. This is evident when comparing two of the interviews: Retailer 04 and B2B 04. Retailer 04 was not prepared for the disaster and did not have any contingencies in place for an uncertain situation. In contrast, B2B 04 had financial reserves, had designed an earthquake-prone layout to limit damage to his premises and had systems and procedures in place for employees to follow in case of an emergency. The outcome for both businesses was completely different; B2B 04 flourished after the earthquakes.

Likewise, many business owners (such as Retailer 09, Retailer 11 and Retailer 16), indicated their attentiveness to technological or social changes in the market, which enabled them to adapt and change accordingly, even prior to the earthquake. I observed that this attitude enabled these businesses to deal with the aftermath of the earthquakes better. Further, it is important to highlight that this attitude is dynamic in nature rather than just one-off preparedness for a potential crisis. This adaptive preparedness enabled these businesses to continually look for market changes or potential threats, which enables/enabled them to adjust their business operations accordingly.

Similarly, the B2B 05 business owner was effectively managing the financial resources even before the earthquakes. One of the aspects of this effective financial management was having reserves for such an event. The business owner acknowledged that a business that has financial reserves is better equipped to deal with tough times. For example, while the earthquakes negatively impacted the business operations, this financial preparedness helped the business to stay afloat and kept them going forward after the disruption:

---

*"We're supposed to have enough money in the bank to pay the wages from our cash flow. But if something affects our cash flow, there is \$50,000 there that we*

*can use until the cash flow gets sorted. We keep plenty of money in reserve to take care of bad times. Whether it's a downturn in business or a machine breaks down or something nasty happens, we are financially very stable and secure."*

(B2B 05)

Apart from financial preparedness, the B2B 04 owner talked about operational preparedness. The company showed that it had a good business knowledge and had prepared for a potential disruption in advance. This preparedness helped the business to reduce the impact of the disruption to its business operations:

*"We had prior to the earthquake, we had seismically restrained our bookshelves and everything anyway. So, that stopped everything falling over. That was beneficial. The pre-planning we did. The making sure that everything was secured. And then having the money to actually do something about me."* (B2B

04)

Overall, the above discussion shows that businesses who prepared in advance, coped well with the disaster and were able to resume business operations much quicker than who were not prepared at all (financially or otherwise). Appendix G shows the quotations, initial coding and the secondary coding for the development of the adaptation preparedness category.

## 7.2. Adjusting to the new conditions – summary

The three subcategories, adaptive preparedness, immediate actions and gradual changes, constitute the broader category "adjusting to the new conditions" (refer to Figure 7-2). The figure shows the ways of adapting and preparing to adapt to the new environment and challenges.

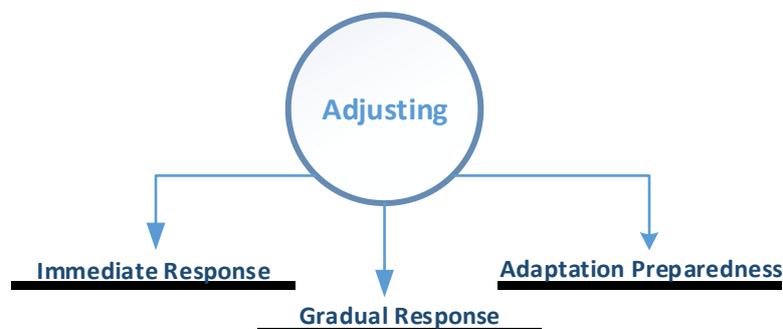


Figure 7-2: Adjusting model

Further, each business' performance was analysed and rated using the following criteria;

- The first criterion was to determine each business owner's level of immediate response in putting resources together and adapting to the situation.
- The second criterion was to determine the level of long-term adaption.
- The last criterion was to determine the level of preparedness. For example, some business owners, such as Retailer 01, Retailer 03, Retailer 19, B2B 01, were good at foreseeing potential challenges or threat that they could face.

Based on these criteria, each business was rated on a scale of 1 to 4, where scores  $\geq 3$  represent a high rating, scores  $\geq 2$  represent a moderate rating and  $< 2$  indicate a low rating. These ratings demonstrate how the companies performed overall for adjusting category. There are outcome scores which correspond to each business. Outcome refers to the business' success after the earthquakes. Outcome was also measured using a 1-4 scale where 1= declined as a result, 2= no impact, 3= declined but regained and 4= flourished. Table 7-1 shows the scores for each business for each of these criteria.

	Pseudonym	Outcome	Immediate	Gradual	Adapt. preparedness	Average score	Score rating
10	Consultant 02	4	4	4	3	3.7	High
11	Construction 02	4	4	4	3	3.7	High
12	Construction 03	4	4	4	3	3.7	High
13	Retailer 04	1	1	1	1	1	Low
14	Retailer 05	3	4	4	1	3	High
15	Retailer 06	1	4	4	4	4	High
16	Retailer 07	3	2	4	2	2.7	Moderate
17	Retailer 08	4	4	4	4	4	High
18	Retailer 09	3	4	3	3	3.3	High
19	Retailer 10	4	4	4	4	4	High
20	Retailer11	4	4	4	4	4	High
21	Retailer 12	4	4	4	1	3	High
22	Retailer 13	3	4	4	1	3	High
23	Retailer 14	3	4	4	1	3	High
24	Retailer 15	2	1	1	1	1	Low
25	Retailer 16	3	4	4	4	4	High
26	Retailer 17	3	1	4	1	2	Moderate
27	Retailer 18	1	4	4	4	4	High
28	Retailer 19	4	4	4	4	4	High
29	Retailer 20	4	4	3	3	3.3	High
30	Retailer 21	4	4	4	4	4	High
31	B2B 04	4	4	4	4	4	High
32	B2B 05	4	4	4	4	4	High
	Scales	Outcome: 1= declined as a result 2= no impact 3= declined but regained 4= flourished	Score: 1 = Extremely low 2 = Low 3 = Moderate 4 = High	Score Rating: Average scores $\geq 3$ = High Average score $\geq 2$ = Moderate Average score $< 2$ = Low			

Table 7-1: Adjusting – scores of cases

The above table shows that the higher the adjustment rating, the higher the outcome; in short, there seems to be a relationship between these two aspects. These cases showed similar results in terms of the adjustment aspects of their outcome. There was one exception to this. Retailer 17's immediate response was 'flight' rather than fight. The owner was essentially not prepared for any uncertain situation and the earthquakes affected his wellbeing. He decided to leave everything and went to visit family overseas. Upon his return, the owner restarted his business using a similar model to the previous one. The business was able to recover because the business gradually adjusted to the environment. The owner accepted the fact that the customer footfall was reduced, yet he decided not to change the products he was selling. The business regained its market a few months after reopening.

Most of the businesses were given low adaptation preparedness scores, because SMEs primarily plan for elements which are conceivable or at least visible to them. However, those who performed well in the adaptation preparedness aspect were the business owners who had years of experience, whether running their own businesses or working for another company. The analysis revealed that education also played a crucial role. Some businesses who were not familiar with planning processes, failed to foresee the challenges that were a result of the earthquakes. It was necessary that business owners used the acquired skills and experience. After accepting the impact, owners needed to make adjustments to their businesses. Events such as earthquakes may bring massive changes to the environment; owners needed to be careful yet quick when making changes to their businesses.

Through analysis, I was able to uncover variations within and across the cases. The next subcategories and categories provide greater detail about recovery and the reasons behind the actions that businesses took

### **7.2.1. Changes to the business model canvas of the cases**

As 'adjusting to the new conditions' was closely related to various aspects of the business model canvas (Osterwalder & Pigneur, 2010), it was important to analyse what elements were changed and how these changes impacted business models after the earthquakes. The business model canvas considers nine components of the business. As mentioned in Chapter 5 (Section: 5.1: Emerging aspects), overall the business model elements played a minor part in business recovery. This section further analyses whether the business model elements were important for recovery for the businesses studied in the second stage of data collection.

The data analysis showed that the businesses took various steps to modify the way they were doing business after the disruption. Even smaller changes in business operations impacted significantly on

business performance. Steps were taken to modify the way the businesses approached their customers, particularly in terms of decisions about their new locations and forms of communication (using Facebook or other sites). These steps helped the businesses to limit the damage to their customer numbers. There is an explicit connection between adjusting to the new conditions and the business model canvas; thus it is necessary to include the business model changes the business owner adopted. While some of the changes were immediate, others occurred later in the years after the earthquake. Table 7-2 shows the changes explicitly discussed or implied by businesses who participated in the second stage of data collection.

	Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segmentation	Key Resources	Channels	Cost Structure	Revenue Stream
<b>Consultant 02</b>			The focus was changed to waste management and web development						
<b>Construction 02</b>			Shifted from students' accommodation to workers' accommodation		Shifted focus from students to workers				Increased
<b>Construction 03</b>					Shifted focus from residential to commercial				Increased
<b>Retailer 04</b>							Relocated from CBD to House garage		
<b>Retailer 05</b>				Tried to maintain customers by going to their homes for deliveries			Shifted from the old shop to the house for a while and then moved to another shop in a commercial location		
<b>Retailer 06</b>					Changed from tourists (mainly) to only locals		Relocated to home garage		
<b>Retailer 07</b>									
<b>Retailer 08</b>			More emphasis on brand	Transactional to brand building			Relocated in nearby locality		
<b>Retailer 09</b>							Relocated to close premises		
<b>Retailer 10</b>					From the teen market to young and middle-age market				

	Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segmentation	Key Resources	Channels	Cost Structure	Revenue Stream
<b>Retailer 11</b>		Increase in staff	Branding focused						Increased
<b>Retailer 12</b>									Increased
<b>Retailer 13</b>									
<b>Retailer 14</b>									
<b>Retailer 15</b>									
<b>Retailer 16</b>							Immediately moved to sell to Auckland, added another location		
<b>Retailer 17</b>									
<b>Retailer 18</b>							Relocated to the garage		
<b>Retailer 19</b>							Relocated temporarily		
<b>Retailer 20</b>									
<b>Retailer 21</b>							Relocated temporarily		
<b>B2B 04</b>									
<b>B2B 05</b>							Relocated to another suburb		

Table 7-2: Business model changes - cases

The above table shows that most of the businesses adjusted the 'Channel' aspect of their business models. Channels are defined as the means through which companies approach their customers. These include decisions relating to location, distribution channels or forms of communication. The disruption forced various businesses, such as Retailer 08, Retailer 18 and Retailer 21, to change their physical location and/or the way they used to communicate with their customers, which meant a small change in their business models. This is how they ensured the continuity of operations. Moreover, other changes occurred in the customer segments which was mainly due to the relocation of their businesses (examples are Retailer 05 and Retailer 08). The small businesses who participated in this study had been operating in the same locality. Therefore, a change in location may change the customer segmentation. Further, a few of the businesses changed their value proposition; that is, they changed their communication message to attract a new market or rebranded the business for their existing target market. Overall, the data analysis presented two major categories of change;

- **Relocation:** The businesses mostly relocated from the CBD to other areas which were less affected by the earthquakes. This clearly changed the channel element in the business models canvas. However, businesses did not change many of the other elements (Figure 7-5). Similarly, in the previous phase of the data collection, the 'Channel' element was predominantly changed or modified (refer to Table 5-1 in Chapter 5).
- **Technological adaptation:** The most important business adaptation occurred in the technological aspect of the business model. Although many businesses were focusing on technological adaptation (such as Retailer 09, Retailer 11 and Retailer 16), they used more of these channels after the earthquake, especially for customer communication and marketing purposes. The businesses mostly used Facebook pages to market their product or services. Some businesses developed their new websites, some modified the existing sites and some hired hub websites to display their products. In one case, the business owner mentioned that the company hired staff through the New Zealand online trading portal Trademe<sup>6</sup>. This finding indicates that businesses are now using non-traditional methods (as opposed to advertising in newspapers) for hiring and recruiting employees. Therefore, it can be seen that small businesses have realised the importance of adapting technologically and using different avenues to approach customers and/or potential employees.

The data analysis showed that business model changes were just one part of much larger recovery stories. Thus, I decided to expand the scope to the study to examine the data with a broader prospect, earlier in the research. This brought new insight and themes such as adjusting to the new conditions,

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<sup>6</sup> <https://www.trademe.co.nz>

cognitive frameworks and social capital. The action orientation, especially the adjusting category, is the only theme which relates to the business model changes. The business model changes were only one aspect of several which revealed the business owners' ability to adapt and change. This category, adjusting, combined with other aspects (described later in this chapter), enable businesses to adapt, accept and modify their ways, which ultimately helped the businesses to recover.

The next section talks about another emergent category, which was another action-oriented category designated "learning."

### **7.3. Learning – an overview**

In addition to adjusting to the new conditions, learning, as an action and a process, was found to be an equally important category. This section introduces the importance of learning and its role in the recovery trajectory of the interviewed businesses.

The data analysis highlighted that there were different types of learning. For example, B2B 05, a crafter, experienced the loss of a supplier as many businesses ceased operations after the earthquakes. The owner acquired a special machine to make the required material, which required the business to learn new skills. Although, acquiring new machinery was discussed under the adjusting category, it also highlights a learning curve for the business in terms of enhancing operational competencies. This experience equipped the business owner to operate new machinery and upskill himself and his employees. It is important to note that in this case, the owner's learning capability enabled the business to continue without interruption to their supplies and quickly recover from the impact of the earthquakes.

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*"... because a couple of the suppliers that we used to use for engineering supplies, they closed and didn't reopen and so we went and bought a machine and did it ourselves. So there is a couple of processes that we do here that we didn't used to do." (B2B 05)*

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On a personal level, the business owner of Retailer 07 realised the importance of her wellbeing and the wellbeing of people around her. After the earthquakes, she improved the layout of her shop by keeping the exits clear so that in an emergency people could evacuate the shop easily. The earthquakes taught business owners that there is a need to be more compassionate towards others. They also taught the business owners to look beyond profitmaking and care for each other. More generally, the earthquakes contributed to the understanding that supporting one another during

times of crisis will lead to safer communities and provide a healthy environment in which businesses can flourish:

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*“[Learnt that] you have to be very careful about it [life] today and thinking good things, do good things for today and not thinking too much of about fighting [about differences] and care about the people.” (Retailer 07)*

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Appendix H shows excerpts from the interviews and the assigned codes which eventually led to the development of this category. It shows the first and second coding cycle and how these codes were combined to produce the learning category.

Overall, the data showed that the learning is about the ability to understand and improve the ways to deals with people, machinery or any other aspect which will improve the business and help the businesses to recover during an adverse event. The following sub-sections explain the different types of learning in further detail; social, strategic and operational learning.

### **7.3.1. Social learning**

Social learning is the process of better understanding personal, employment, neighbourhood and community dynamics. Owners, employees, customers and neighbours all faced a variety of challenges. For example, at a personal level, business owners learnt the value of time; that is, keeping a healthier work/life balance. Business owners learnt to look beyond business activities and to improve personally. The earthquakes taught business owners to respond to internal or external stakeholders’ emotions and to bond with the larger community.

For example, the Retailer 04 owner realised that she needed to spend less time on her business and more time on her personal life, after the earthquakes. She has learnt that social bonding is important. In short, she can re-establish her business after a crisis- but family and friends need more care and attention; as good social network helps emotionally during tough times:

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*“It is all the same. I don't want to get involved too much because I need to give time to my family previously I used to do a lot but now I need to give time to my family. Because I need you to check my house so now I have got relaxed timings.”*  
*(Retailer 04)*

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Further, the business owners learnt to deal with the emotional side of others, especially their employees. For example, an air-conditioning services provider (B2B 04), learnt to deal with employees' emotions. As a result of the earthquakes, many of the employees' houses were damaged and/or red zoned. Therefore, the employees were personally stressed. The business owner supported his employees' emotional recovery by talking to them and providing much needed help to sort out their personal situations. According to the owner, dealing with operational matters was far easier than dealing with employees' stress and emotions. This owner specifically mentioned learning about dealing with people's emotions, managing their employees stress and becoming counsellors through providing advice during the difficult times:

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*"Everybody was also dealing with things at home that a lot of place, a lot of our staff were somehow affected from the earthquake. Their homes, somewhere months or even getting into every year being relocated. And re-relocated. So that caused quite a bit of stress. I became a counsellor as well." (B2B 04)*

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Furthermore, the business owner (B2B 04) that he had learnt about managing individuals from different countries and backgrounds. Workforce demographics changed after the earthquakes because many foreign workers moved to the city to work on the rebuilding project. These diverse migrant workers that each culture had certain ideas about other cultures and that makes it difficult for them to all work together. For example, Filipino migrants find swearing highly offensive but a lot of NZ construction works swear (and don't see it as a problem). Managing them, making time schedules for them and understanding and accepting cultural differences were key learning experiences for the business owner.

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*"Some of the work was sort of job specific. So you then got to work with, you might be working with other traits that you would not normally work with or you, particularly, there was a lot of migrant worker support in so, there are so different social aspects that you are happening to learn about. Some of the traits that we were working with, experienced difficulty with managing the like you take painters and the plasterers there. They might have a bunch of guys from Philippines and other bunch from somewhere else any way. And they might be socially abrasive to each other. So you had to keep them quite separate." (B2B 04)*

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Additionally, another form of learning relates to the individual's and their connection with the wider community. The business owner acknowledged that prior to the earthquakes people were embarrassed to ask their friends or other business community members for help. People were reluctant to share their problems with others. The earthquakes spread awareness that there is no harm in discussing the challenges and issues with industry groups or related community members. Business owners learnt that sharing their problems with others provides an opportunity for brainstorming and potentially leads to effective problem-solving. For example, Retailer 21, an auto mechanic, had a hard time after the first earthquake. Based on her accountant's suggestion, she was able to reopen the business immediately after the earthquake. She was sceptical about the customer's footfall because the customer numbers reduced significantly. In the end, the foot traffic gradually increased. Meanwhile, she was in contact with many different industry groups which she never considered joining before the earthquakes. Consultation and discussion sessions with industry groups gave her confidence to keep her business running. She learnt the importance of asking for help and brainstorming, especially in times of need:

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*I think the quake issue taught me that it's okay to talk to other people about your business regardless if it is good or bad because nine times out of ten they've had the same problems and they can help you get through them." (Retailer 21)*

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Alongside individual learning for the business owners, there was community-wide learning. The understanding between community members increased, and the earthquakes also brought communities together. People realised that a culture of sharing and discussion is beneficial for the overall community. People started to care more about their community and neighbours rather than just focusing on their own interests and objectives. The interviewed businesses also appreciated the fact that the community bonded together as the result of the disaster. The following quotation exemplifies how business owners perceived the learning in terms of the community:

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*"I think people, there is a bit more togetherness I suppose and people I think are problem solving a bit more now than what they were in the past." (Construction 03)*

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Similarly, according to Consultant 02, the earthquakes were a trigger point and helped him/her realise that uncertainty can have a significant impact on a community/society. Therefore, communities, need to be prepared for any uncertain situation and avoid risks where possible.

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*“I suppose when I think about the earthquake and the learning I can take away from it is just it is how it has given the people in Christchurch such an understanding of uncertainty. I think that has flowed forward into everything I've seen is that the world is uncertain and there is more of that need to act now because we don't know what's happening next. It's hard to sort of put that into words, but there is a tangible sense of both risk avoidance is part of it, but also an urgency which is an odd combination.” (Consultant 02)*

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This section has summarised the types of personal, group-wise or community-wise learning, which in this thesis is grouped under ‘social’ learning. This type of learning covers from micro-level to macro-level: it starts with individual business owners, their understanding of their employees’ needs and covers the community-wide acquisition of knowledge and resulting community engagement. This type of learning encouraged business owners to appreciate the people around them, rather than just focusing on profits. Appendix I contains different quotations from the data which explain business owners’ experiences and what they learnt from the earthquakes.

### **7.3.2. Strategic learning**

The next type of learning concerns business owners’ core beliefs about how to run their businesses. This is related to business owners’ mind-set; for example, changing perceptions about utilising technology. For instance, the owner of Retailer 21 realised the importance of basic management knowledge. She acknowledged that she was hesitant to go back to the essentials of managing the business, but after the earthquakes, her thinking changed. Adapting her thinking allowed her to be more responsive to the new environment. She mentioned that she has learnt to be more accepting of different business views and has been able to make more strategic decisions. These types of learning are combined under the ‘strategic learning’ aspect, as shown in the following quotation:

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*“I think it also taught us that we needed to go back to 101 of business, in particular in the last three years with changing the management of the business and particularly the financial management. I suppose the last seven years we've managed to learn how to twist and turn with the times.” (Retailer 21)*

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On the strategic level, many businesses recognised that there was a constant need to update business knowledge and practices. This is beneficial for businesses as it enables them to avoid the status quo

and explore new opportunities in the market. For example, Construction 02, emphasised constant learning and improvement, whether it is preparing for unforeseen events or reacting to a major disaster:

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*“I've got to keep up with my knowledge, that's the main thing. So I've just got to be prepared to keep learning, being open to new opportunities, try not to get too stuck in the way I've done things and just looking for different opportunities.”*

*(Construction 02)*

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Strategic learning is related to the overall approach to dealing with a disaster. Interviewees noted that the earthquake gave them a change to improve themselves. Retailer 17 stressed the importance of dealing with difficult times. The business owner mentioned that the earthquakes taught him to face challenges and that they ultimately increased his ability to handle vulnerability:

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*“You just learnt how to cope with difficulties, to cope with pressures.” (Retailer*

*17)*

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Overall, strategic learning helped the business owners to improve and move forward by recognising that learning is an ongoing process. In short, the earthquakes taught them the need to constantly learn, to improve their practices, to adapt to the new environment and to understand that there is always room for acquiring new knowledge and skills. Appendix J shows examples from the data about business owners' strategic learning.

### **7.3.3. Operational learning**

The third type of learning that emerged from the data is operational learning. This refers to the new techniques business owners gained after the earthquakes, such as installing or running new machinery, managing additional paperwork or constructing a whole new factory or building. The understanding and acquiring knowledge of such technical business aspects are included in 'operational' learning.

For example, after the earthquake, Retailer 13, a café business, realised that the shelves were not shock-proof and the stacking of the material in the shelves, prior to the earthquakes, was improper. The owner incurred a significant financial loss due to the damage because the material threw on the ground as a result of the shaking. After the earthquakes, the business owner learnt about proper

stacking and decluttering methods and was able to optimise their workspace. This is how they learnt and instituted a particular method of stacking their goods. Similarly, Retailer 11, a restaurant owner, learnt to optimise the use of space by setting up their kitchen differently. Further, Retailer 19 experienced severe damage to one part of the building. Although it was a challenging event, the owner described it as a learning experience because he was learnt new skills. He learnt all the procedures involved in the construction process, knowledge that he did not have prior to the earthquakes.

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*“I had never built a building before. Although there was a lot of decisions, I found that really interesting because it was something I had never done before.”*

*(Retailer 19)*

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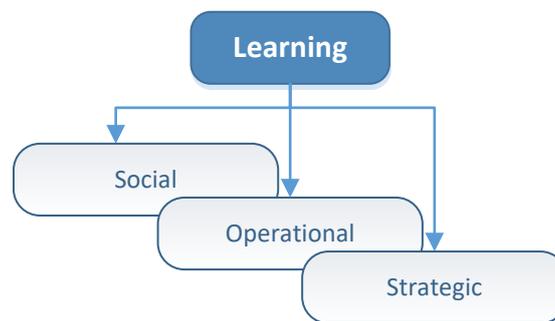
The business owners were also introduced to changes in employment laws and health and safety regulations; therefore, they had to acquire new knowledge related to the procurement, hiring and training of their workforce. All this learning is related to one or more business operations, hence, named it was named ‘operational learning’. Appendix K shows data excerpts for operational learning.

#### **7.4. Learning category – summary**

Learning refers to a business’ ability to adapt and improve in different aspects. The data suggests that business owners showed that business owners had positive attitudes towards learning and understood its value in improving productivity. There was some learning about people management, emotional management and accepting new cultures and understanding that people behave in a certain way. Another type of learning occurred on a broader level; many businesses realised that it is very important to regularly analyse their performance and customer data. Businesses learnt to be more strategic in their business decisions and consideration of general business topics. There were some operational aspects of learning, which concern business operations; these include learning to operate new machinery. Learning is summarised in Figure 7-3.

Overall the data analysis revealed that learning is the major factor in the recovery of SMEs. SMEs acquired knowledge and modified their assumptions based on their experience of the earthquakes. As a long-term process, it is about reflecting upon events, learning from the experience and institutionalising them in the businesses. Businesses learnt to recognise other options and alternative ways of doing things that they might not have considered before the earthquakes. Basic assumptions about how to run a business were redefined in the aftermath of the disaster. In comparison with larger

businesses, the learning process for SMEs is simpler and easier to incorporate as they do not have multiple layers of management to initiate changes and achieve the desired outcome.



**Figure 7-3: Learning overview**

Table 7-3 shows the overall scores of the learning category for all the interviewed businesses. Scores were determined using a similar method to the adjusting category (Table 7-1); that is, each business was rated on a scale of 1 to 4, where scores  $\geq 3$  represent a high rating, scores  $\geq 2$  represent a moderate rating and  $< 2$  indicate a low rating. The table shows that businesses who were ranked higher in the learning also performed better (see outcomes). There were only two cases which differed from all the other cases in this table: Retailer 14 and Retailer 17. Although both of these cases regained their prior business status (that is, showed a positive outcome), their overall learning was moderate. In short, they had a high score for strategic learning and a lower score for the other two subcategories. In these instances, Social learning was low (because both cases didn't have employees due to nature and affordability of the business) and they carried their businesses without changing any previous perceptions for the employees, or for the general community. They were more concerned with growing their businesses the earthquakes, which portrayed their strategic level learning. The operational settings for these businesses remained the same and the business owners wanted the same design/layout of the shop and day-to-day routine.

Another unique case, Retailer 18, had a higher ranking for learning but did not perform well in terms of business outcome. This ties into the previous theme, the cognitive framework (Chapter 6); that is, the business owner was not passionate about growing the business.

	Pseudonym	Outcome	Social	Strategic	Operational	Average score	Score rating
10	Consultant 02	4	4	4	4	4	High
11	Construction 02	4	4	4	4	4	High
12	Construction 03	4	4	4	4	4	High
13	Retailer 04	1	4	1	1	2	Moderate
14	Retailer 05	3	1	4	4	3	High
15	Retailer 06	1	1	1	1	1	Low
16	Retailer 07	3	4	4	4	4	High
17	Retailer 08	4	1	4	4	3	High
18	Retailer 09	3	4	4	4	4	High
19	Retailer 10	4	4	4	4	4	High
20	Retailer11	4	1	4	4	3	High

	Pseudonym	Outcome	Social	Strategic	Operational	Average score	Score rating
21	Retailer 12	4	4	4	4	4	High
22	Retailer 13	3	4	4	4	4	High
23	Retailer 14	3	1	4	1	2	Moderate
24	Retailer 15	2	1	1	1	1	Low
25	Retailer 16	3	4	4	4	4	High
26	Retailer 17	3	1	4	1	2	Moderate
27	Retailer 18	1	1	4	4	3	High
28	Retailer 19	4	4	4	4	4	High
29	Retailer 20	4	4	4	4	4	High
30	Retailer 21	4	4	4	4	4	High
31	B2B 04	4	4	4	4	4	High
32	B2B 05	4	4	4	4	4	High
	Scales	Outcome: 1= declined as a result 2= no impact 3= declined but regained 4= flourished		Score: 1 = Extremely low 2 = Low 3 = Moderate 4 = High		Score Rating: Average scores $\geq$ 3= High Average score $\geq$ 2= Moderate Average score $<$ 2= Low	

**Table 7-3: Learning scores – all cases**

Adjusting and learning were two major categories which indicate a business owners’ action orientation. The next section explores another important category for small business recovery: risk management.

## 7.5. Risk management – an overview

The data analysis suggested that business owners undertook some risks or prepared their businesses in terms of risk mitigation. The data shows an important aspect of business recovery in the aftermath of the earthquakes. The business owners generally followed the same steps for risk management; analysing the situation or potential risk scenarios, evaluating the cost of potential damage, and investing to prevent potential losses) and responding to these risks (taking necessary risks). For example, Retailer 09 (pharmacy business) stated:

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*“You've got to think ahead and think what could happen, how is it going to affect me and what do I need to cover off if it does happen.”*

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The business (Retailer 09) owner had planned for unforeseen events prior to the earthquakes. Although it was not an extensive plan, some thought had been given to what should happen during and after an unexpected event. The business owner was able to restart their business quickly due to these plans. This clearly shows that risk management, even on a small scale, is helpful for businesses. This example reflects that the business owner was prepared before the disaster. Likewise, for many other businesses (Construction 02, Retailer 09 and Retailer 21), risk management emerged in the form

of how and what risks the businesses took. The business owners had to analyse the situation and after considering multiple options had to take appropriate steps. These steps were generally well thought out and calculated before the occurrence of a potential crisis

Appendix L shows excerpts from the data which outline the actions various owners took and how they moved ahead with their risk mitigation plans. This table also shows initial and secondary codes which led to the discovery of sub-categories. Analysis of the data revealed three main types of risk that business owners took; namely, relocation risk, reputation risk and strategic risks (refer to Figure 7-4).



**Figure 7-4: Types of risks - cases**

For example, the B2B 05 owner had to consider relocating to a surrounding suburb after accessing the target market and customer footfall. This was a huge risk for the business because it has been in the main city centre for years. Similarly, Retailer 19 was known for targeting affluent customers. After the earthquakes, the owner changed their target market to capture more price-conscious customers. Although this was a well-established business, they had to consider their future and thus decided to take a risk by focusing on an untapped market. Retailer 05 mitigated operational risks by improving their store layout for both staff and customers after the earthquakes. The business owner has strategically designed the shop to ensure that the aisles are clear and the shop can be evacuated quickly. These examples are about assessing or taking calculated risks.

To understand business owners' risk management approach, the risks need to be evaluated relative to the size of the business. Although some risks may seem small, they can have a massive impact on small business profitability. For example, for B2B 05, it was a major risk for them to move locations because their customers had an association with the previous premises. The business strategy and decision to relocate was carefully considered. This careful analysis enabled the business owner to take a huge, but calculated risk, for the betterment of the business. For instance, moving out proved a major advantage for them. The customers were also very supportive of the business owner's decision to move locations, despite the fact that they had been located in the original premises for hundreds

of years. The owner admitted that they would not have thought of instituting these changes if it was not for the earthquakes:

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*“Towards the end of the Christmas holiday she said to me do you know I've just completed all this analysis and she said I've checked my figures and checked them again, 94% of our customers don't come anywhere near our building, 94%. The other thing is of course that the rented premises in Christchurch were costing me \$70,000 a year to rent. Commercial premises are not cheap. We could have moved the business out here and lose that rent. No rent to pay.” (B2B 05)*

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For Retailer 21, it was a massive risk to keep the doors open after the first earthquake, because there were no customers coming to their shop, hence no business. The close community in the area was in trouble after the first earthquake, the roads were damaged and closed for a certain time period. But after the second earthquake, the situation improved and because they were one of the few shops open in the area, it gave them an advantage and allowed them to grow their profits. Uncertain about what is about to expect in future after the earthquakes, the business owner kept the business open even they incurred extra costs to do so. They were paying staff even though they weren't earning any income. This strategy paid off in the end as depicted by the following quotation:

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*“We were seriously struggling, but it was about staying stable because if we hadn't we would have been in big trouble come that February earthquake when the boom hit.” (Retailer 21)*

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Further, the B2B 04 had a backup plan to keep them operational after a major event. Most of the preparation involved securing their finances; in short, having a financial backstop. The other method was to buy insurance. As previously discussed, having insurance did not prove to be a reliable backup strategy due to the massive workload for insurance companies after the earthquakes. Therefore, keeping a financial cushion and having inbuilt system capacities for mitigating risks is also a crucial aspect in the adaptive coping theme.

Risk management is a process that a business owner develops over time and keep on modifying after analysing the outcome of past experiences. Some owners had more experience of running a business or had relevant education. Therefore, this analysis breaks the broader risk-taking aspect of recovery into two features;

- A risk averse approach
- A reactive approach (post-disaster).

These two features are calculated based on pre and post-disaster situations. For example, some business owners (such as B2B 05, Retailer 07 and Retailer 09) had an idea about the difficulties they might face as a result of unforeseen situation and they either kept financial reserves or created systems and layouts/designs of the businesses to mitigate risks. Experience and education both helped business owners to build their risk management abilities. The next section summarises the adaptive coping framework.

## **7.6. Adaptive coping**

Adaptive coping refers to a business' ability to adjust to a new situation, to learn new skills and to manage risks. This theme refers to the behavioural and action aspects of business recovery. It generally involves confronting challenges directly and taking actions. The business owners took certain steps in order to deal with the crisis. Some flourished as a result of these coping strategies:

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*“As I say, adaptability is important. The landscape changed with the earthquake and so my business has changed along with it.” (Consultant 02)*

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This framework consists of two parts; one is the initial response in the face of the crisis, making quick decisions which do not involve thorough planning, taking a lot of risks for reputation and customer base. The second part is more about gradually and strategically taking action and deciding how to cope with the effects of the disaster in the long run and how to keep the business running. The rapid coping stage involves businesses deciding whether they are going to stay open/continue operating. Many of the businesses located in the CBD either went out of business or decided not to continue after the earthquakes. The businesses who participated in this study handled the sudden shock and were determined to keep their businesses going. This initial response is crucial for a business. Figure 7-5 demonstrates that education and experience encircle the whole adaptive coping framework. The experience of running a business or having experienced other disruptions prepared them for gradual or rapid responses.

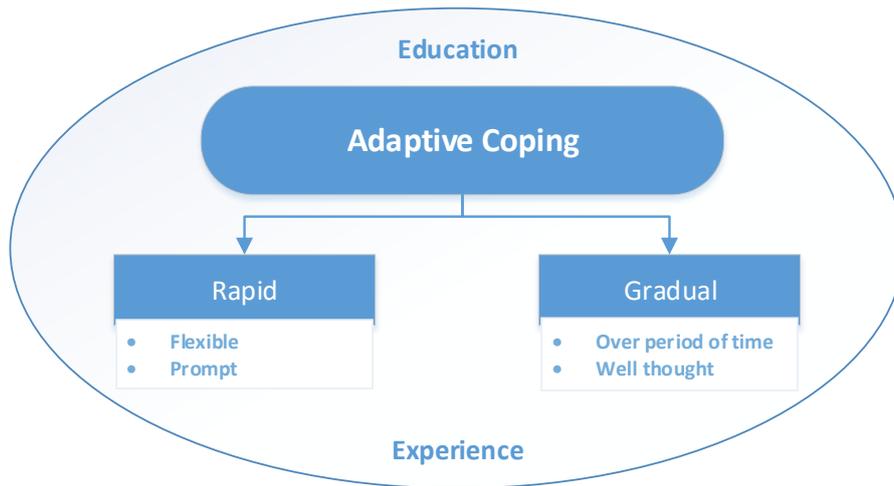


Figure 7-5: Adaptive coping types

### 7.6.1. Challenges and adaptive coping framework

The business owners faced many challenges while trying to negotiate the new business environment. These challenges were related to the business owners’ personal or business life. Although, the current research is related to the core aspect of a business; Small business owners often do not draw a line between personal and business challenges. For example, the owner of Retailer 07 endured damage to her house but it also impacted the way she ran her business. Figure 7-6 shows the challenges businesses confronted.

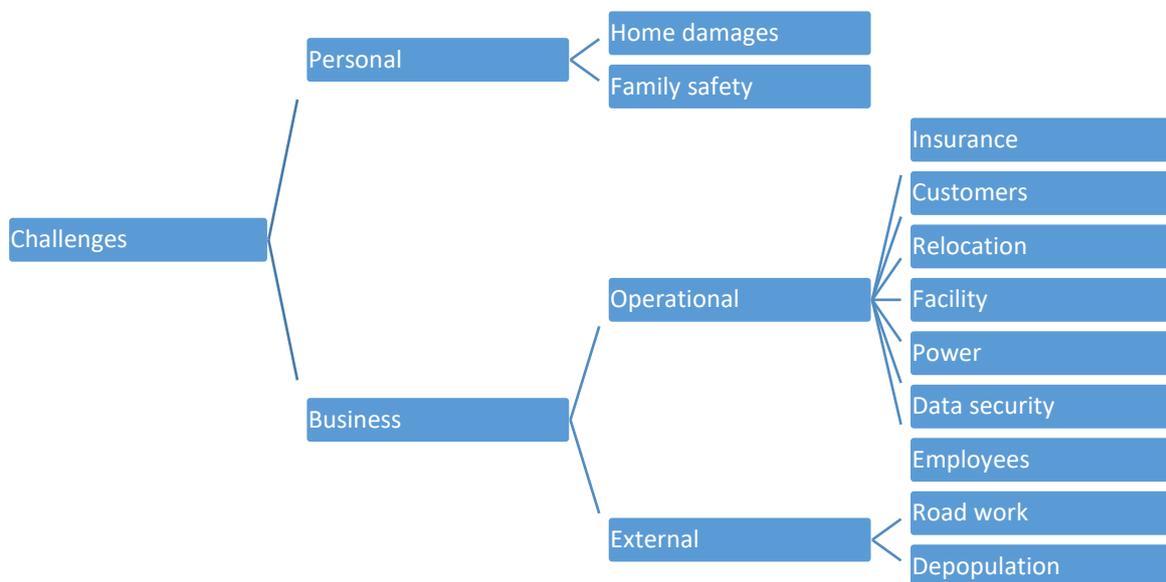


Figure 7-6: Challenges for SMEs after the earthquakes

The personal struggles were related to damage to one’s personal home damage or about safety and wellbeing of family members. For example, in the first earthquake Retailer 12’s children were at school. His major concern at that time was how his children were going to get home from school

because there were communication issues. On the day of the earthquake, the priority for him and many other business owners was the safety of their family. After the immediate worry and shock wore off, many people were fearful of sleeping inside their homes due to ongoing aftershocks. Many people could not sleep properly and they slept in their driveways. This carried out for a month before returning to the normal life routine. For example, Retailer 12 stated that his family was scared and slept in the driveway for many nights because his wife and children were afraid to sleep inside their home. In the data, these issues are directly related to business performance because they own and work in their own business, personal issues impact on their business performance and vice versa. Due to the intertwined nature of the business owner and the business, the focus of the business owner was divided between personal and professional challenges. This conundrum may limit their ability to foresee opportunities for business growth. The adaptive coping framework acknowledges the steps that business owners took and that learning and adaptation occurred at individual, professional and business levels.

As far as business challenges were concerned, owners had two broad areas to deal with: operational and external challenges. The analysis of the data showed that business owners faced some operational challenges, including handling insurance claims and/or relocation. In addition, there were some external challenges which business owners could not control, such as road works or depopulation. After the earthquakes, the Christchurch rebuild caused a lot of construction and road works. The B2B 05 owner found it difficult to navigate through the roads. The owner decided to relocate because of the construction work, detours and difficulty manoeuvring. The decision was also based on the problems caused by the ongoing road works and traffic jams in the city. The owner was frustrated by the amount of stress the rebuild and recovery of the city was causing for him and his employees. The business owner decided to relocate to a suburban area. Although the business owner bought the business from the previous owner in 2005, he felt at first that the location change would be a challenge as customers associate a business with a location; the business was situated in CBD for 100 years. Therefore, the decision to move to a new location was a challenge for the business. This is only one example of some of the challenges business owners encountered. Other examples include setting up a business from scratch in a spare warehouse facility, establishing a new layout of the shop, dealing with inaccessibility of the location for the customers and so on.

## **7.7. Application of the adaptive coping framework**

Table 7-4 shows businesses' adaptive coping scores. The table shows the scores for the various subcategories. This enabled me to draw links with the cognitive framework. Generally, for adaptive

coping, the businesses who were ranked higher in adjusting and learning, performed well (in terms of outcome). However, there were some exceptions to this. Some businesses (such as Retailer 14 and Retailer 17) were able to perform well regardless of their scores/ranking in the subcategories or categories for the adaptive coping framework. I was particularly interested in finding the reasons behind these disparities. I discuss the reasons for these outlier cases in the adaptive coping framework at the end of this chapter.

A business owner's action orientation enables them to take quick, corrective actions. The data indicates that adjusting to a new condition is the main category in this framework. Learning and risk-taking are additional factors in the framework, which enhance a business' outcome. Some business owners had an aptitude for adaptation or preparedness prior to the earthquakes, while others learnt to be strategic as a result of the earthquakes.

## Adaptive coping – scores

		Outcome		Adjusting			Learning			Risk management		
			Immediate	Gradual	Adapt. preparedness	Score rating		Strategic	Operational	Score rating		Score rating
10	Consultant 02	4	4	4	3	High	3	4	4	High	3	High
11	Construction 02	4	4	4	3	High	4	4	4	High	4	High
12	Construction 03	4	4	4	3	High	3	4	4	High	3	High
13	Retailer 04	1	1	1	1	Low	1	1	1	Moderate	1	Low
14	Retailer 05	3	4	4	1	High	1	4	4	High	1	Low
15	Retailer 06	1	4	4	4	High	1	1	1	Low	1	Low
16	Retailer 07	3	2	4	2	Moderate	2	4	4	High	2	Moderate
17	Retailer 08	4	4	4	4	High	2	4	4	High	2	Moderate
18	Retailer 09	3	4	3	3	High	4	4	4	High	4	High
19	Retailer 10	4	4	4	4	High	2	4	4	High	2	Moderate
20	Retailer 11	4	4	4	4	High	2	4	4	High	2	Moderate
21	Retailer 12	4	4	4	1	High	2	4	4	High	2	Moderate
22	Retailer 13	3	4	4	1	High	2	4	4	High	2	Moderate
23	Retailer 14	3	4	4	1	High	1	4	1	Moderate	1	Low
24	Retailer 15	2	1	1	1	Low	1	1	1	Low	1	Low
25	Retailer 16	3	4	4	4	High	3	4	4	High	3	High
26	Retailer 17	3	1	4	1	Moderate	1	4	1	Moderate	1	Low
27	Retailer 18	1	4	4	4	High	4	4	4	High	4	High
28	Retailer 19	4	4	4	4	High	2	4	4	High	2	Moderate
29	Retailer 20	4	4	3	3	High	2	4	4	High	2	Moderate
30	Retailer 21	4	4	4	4	High	4	4	4	High	4	High
31	B2B 04	4	4	4	4	High	2	4	4	High	2	Moderate
32	B2B 05	4	4	4	4	High	4	4	4	High	4	High
	Scales	Outcome: 1= declined as a result 2= no impact 3= declined but regained 4= flourished		Score: 1 = Extremely low 2 = Low 3 = Moderate 4 = High		Score Rating: Average scores≥3= High Average score≥2= Moderate Average score<2= Low						

Table 7-4: Adaptive coping – score of all cases

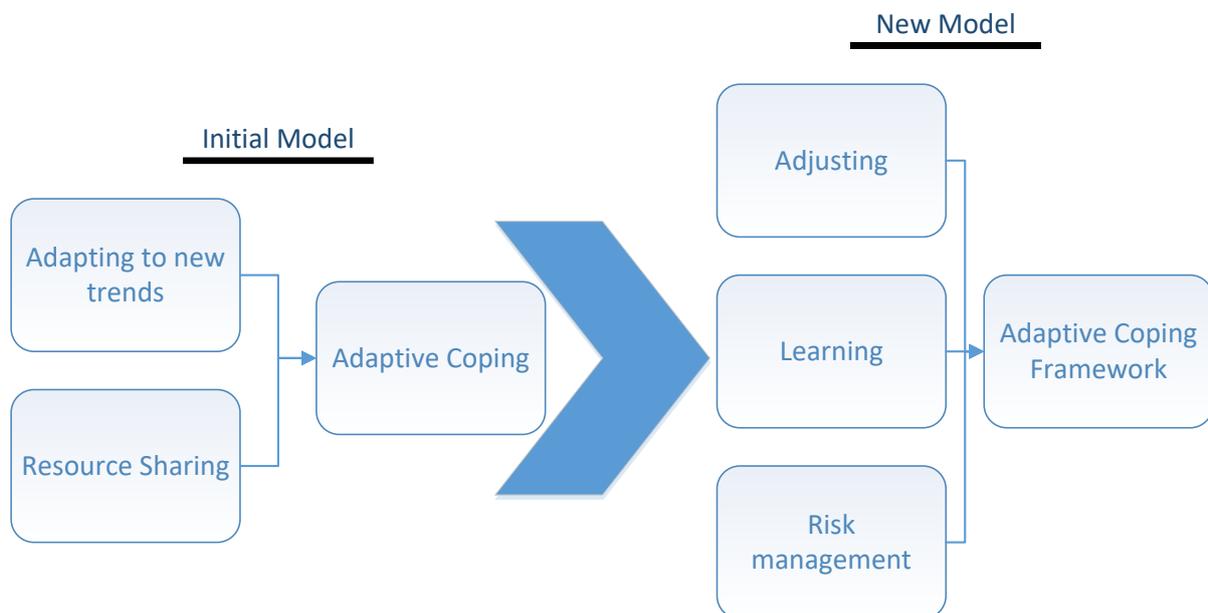
The table demonstrates that there were businesses who were not prepared before the earthquakes (adaptive preparedness) but learnt as a result of experiencing the disaster and moved forward. This accumulated knowledge enables businesses to handle difficult situations like the earthquakes. This means that businesses who have the ability to continuously learn and perceive the broader picture for the overall business, can have better adaptive preparedness for future disruptive events. In this table, Retailer 05 is an exemplary case. The business owner had an understanding of management of the disruptive events. After the earthquakes, the business owner displayed a willingness to learn and improve strategies for running the business. This accumulated knowledge and prepared the business owner to deal with future events that may occur. Similar themes were evident in the interviews with was seen in Retailer 12, Retailer 13 and Retailer 14.

There was another unique trend noticed in Retailer 06. The business scored high in the adjusting to the new condition category because the business owner acted quickly after the earthquakes, adjusted to the new environment and demonstrated a prior ability to change. However, for the other categories, learning and risk-taking, the business received a low score. This adaptive coping framework is made up of categories adjusting to a new condition, learning and risk management.

Retailer 17 was a unique case. The table shows that while the business had a moderate ranking for the adjusting and learning category it managed a higher score for the outcome; that is, the business declined before returning to a pre-earthquake state of operations. The gradual adjusting and strategic learning score were higher than other sub-categories. This can be seen in the way the business owner approached business activities. The business owner was financially assisted by his family living overseas. This help from the family provided a capacity to form a status quo in which the business owner was comfortable working in which assisted business owner to remain at the minimum level of the performance. Financially supported by the family gave the business owner more time to adjust to the new environment. He was comfortable with the state of the business and was not under any obligation to earn money as the family was really supportive. The business owner did not act quickly to modify aspects of the business, because he knew that there was nothing to worry about financially. Thus he was able to gradually adjust to the environment. Therefore, the business owner was able to handle the changing environment even though there were reduced demand and customer footfall. The owner learnt about the importance of being adaptive and being prepared for adverse circumstances. Therefore, the business owner managed to recover and keep his business operating.

### 7.7.1. Adaptive coping (initial framework) vs. Adaptive coping (final framework)

This section compares two themes; adaptive coping (introduced in the initial model; Figure 5-1) and the adaptive coping framework (summarised in Figure 7-7). In the initial model, adaptive coping had two categories; adapting to new trends and resource sharing. This was later transformed into the adaptive coping framework based on analysis of additional cases. It has three categories: (a) adjusting, (b) learning, and (c) risk management. This section compares the differences between the initial and modified themes.



**Figure 7-7: Initial vs. modified themes**

The initial theme, adaptive coping, emerged as a key component of business owners' action orientation from first nine interviews. It was based on the initial codes ('adaptive to the changes posed by changes in the environment', 'adapting to the circumstances', 'a focus shift', 'adaptability', 'quick pathway to recovery', 'acting quickly', and 'temporarily changing the focus'). These codes were combined into secondary/pattern coding, to become adjusting and immediate reaction. These two codes were then combined into an initial category 'adapting to new trends'. At the time of category development, no distinction was made between immediate and gradual responses; however, this was realised during the second phase of data collection.

However, in the second phase of data collection, a modified category 'adjusting to the new conditions' was defined regardless of whether it was an immediate or gradual response; both responses were combined in this category. In the modified category, although the basic definition remained same,

later data suggested that this category has different types; so while some businesses adapted immediately, others took much longer and some were already prepared. This in-depth definition explains the category more thoroughly. It also shows that the modified category is a process which involves time. Codes such as 'business as usual', 'back up and running very quickly', 'decided very quickly', and 'quick response' led to the understanding that owners' prompt responses played a role in ensuring the recovery of the businesses and adjusting to the post-disaster context. Likewise, codes such as 'adapting to where the customers moved', 'change and adapt and upgrade', 'changing with the trends' and 'respond to the change' were understood as being long term in nature. For adaptive preparedness, codes such as 'money in reserve', 'prior ability to change, thinking strategically, cost saving strategy', 'keeping the market trends in mind to change' and 'adapting – before the earthquake' were reflective of business owners' already established/learnt abilities to modify the business according to environment or being ready for any unexpected situations. When combined, these three aspects made up the modified category 'adjusting to the new environment'.

The second category in the initial model was sharing resources and was defined as the act of sharing abilities, resources, and time among different entities in the business surroundings. The codes were 'sharing space', and 'quickly acquiring resources' which were later combined to form 'sharing resources'. Later, during the data analysis process, I realised that sharing resources is not possible if the business owners have not built connections prior to the disaster. In turn, these networks help with resources but in many different ways such as sharing location, industry group meetings and so on. Therefore, this category was included under the 'social capital' theme. This has been discussed in detail in Chapter 8.

In-depth analysis of the second phase of data collection showed that the action orientation of business owners is comprised of additional categories, including learning and risk management. The previous sections of this chapter have explained/demonstrated their relevance. In the initial model, the businesses owner's attitude to learning ('learning attitude' category) was included under the 'mind-set' theme, because it was seen as an intangible aspect of a business owner's ability think and learn. However, after an extensive investigation, learning was redefined as an action-oriented process which involves the modification of thinking and behaviour. In short, businesses need to change physical (location, layout and procedures) as well as cognitive (learning to understand and recognise the value of well-being) aspects. The initial [Process and In vivo] codes which led to 'learning attitude' were 'learning attitude – business-wise', 'operational learning' and 'learning – business operations', and "learning ability-prior (previous experience)". For the modified theme, more detail for the 'learning' category emerged. Codes such as 'learning the importance of networking' and 'learning to deal with

emotional aspects of the employees' led to the development of the 'social' learning subcategory. Likewise, 'stock decisions', 'legal consideration' and 'process flow consideration' led to operational learning. In addition, 'general perception about learning' and "be ready" codes led to general/broader learning.

The last category, risk management, emerged from the data. This category refers to the owner's ability to take actions or safeguard the business against disasters. The business owners took some risks, planned for possible future risks and implemented those plans (such as practising emergency drills and safety exercises). The codes which led to the risk management category were 'prior to earthquake – thinking about the challenges', 'calculating risks,' "likelihood of event", "consequences" and 'calculating risks - risk averse approach'. The new adaptive coping framework is shown in Figure 7-7.

## **7.8. Conclusion**

This section summarises the new adaptive coping framework. This framework deals with the business owner's action orientation. Most of the business owners took quick actions, adapted gradually and prepared themselves for the future disruptions. Meanwhile, they learnt and adjusted their strategies and operations. One of the unique observations was how the business owners realised the value of social learning. They understood the importance of their own wellbeing, the importance of caring for their employees and the importance of society in which they operate. As a result of the earthquakes, businesses learnt the importance of the community (and their place within it) which is largely ignored when they were involved in their normal day to day activities. After the earthquakes, the businesses changed the ways they interacted with their communities

Whether strategic learning becomes part of the day-to-day operations of a business depends largely on the owner. Moreover, risk management acted as an enabler in the adaptive coping framework. This was not a dominant theme in the interviews, but those firms which did discuss they had strong views on it. Therefore, it may be argued that risk-taking is an added aspect of a business owners' coping framework

To conclude this chapter, I developed the framework to demonstrate/illustrate how business owners are led by their motivations and the support they get from their network (Chapter 8). The later chapters elaborate on the mechanism of small business recovery and how the cognitive and adaptive coping frameworks are related.

## Chapter 8. Social Capital

The previous two chapters have presented the cognitive framework and adaptive coping framework as key elements in the small businesses' recovery. This chapter introduces another major aspect of recovery; pre-existing networks and relationships with locals surrounding these businesses. This chapter emphasises the importance of neighbours, the community and business partners. Furthermore, the chapter highlights the importance of staying together in the face of adversity.

The increase in the number of studies using/on social capital indicates the importance of this theory (Aldrich, 2012; Chell & Baines, 2000; Gordon & Jack, 2010; Jack, Dodd, & Anderson, 2008). It is a common belief that organisations work within a collective business environment. This requires them to operate alongside other entities, such as business partners, government agencies and competitors (North, 1991). People are embedded in social settings and networks (Kim & Aldrich, 2005). Social capital is defined as the available resources embedded in these interactions and networks (Aldrich, 2012; Coleman, 1990; Kim & Aldrich, 2005). Nahapiet and Ghoshal (1998) argue that the actual and potential resources available from the networks and connections constitute social capital. Social capital can thus be defined as the resources, available for individuals or groups, embedded in the networks and connections (Anderson, Park, & Jack, 2007).

This chapter introduces the merits of working together which was evident in the data. For example, the business owners expressed how their networks provided them with additional support in the post-earthquake period. This chapter first examines the types of networks that exist in the business environment and how the business owners utilised these after the earthquakes. It then discusses the implications of these networks for social capital. In the end, emergent dynamics of social capital are mentioned.

### 8.1. Development of types of networks

The earthquakes brought challenges not only for the local businesses but for everyone living in the Canterbury region. Business owners acknowledged that people in their surrounding community helped them to cope with the aftermath of the earthquakes. This section identifies the different networks (the business owners' organisational ties or non-organisational ties) which were crucial for their recovery. Due to the widescale nature of the catastrophe, it was essential to have networks to rely on. The interviews with business owners revealed the many different sources of help they received. Appendix M provides quotations which demonstrate the kind of support business owners received.

In summary, Appendix M shows how the quotations were initially coded. This table also shows the secondary codes assigned to these quotations. As can be seen by the quotations, the business owners became much more connected to their already developed ties. Using the interviews with the owners and managers of the small local businesses, through reflective memos and iterative process of coding and analysis, I identified clusters of networks which supported the businesses in their recovery journey. For instance, the owner of Retailer 06 relocated his business to his home-garage because his former building was red-zoned. The business was given a short amount of time in which to collect all their equipment. Friends helped with the removal of the equipment from previous location and transferred it to the home-garage. The business owner stated, "On the day, we got into our old workshop we had five of our friends who helped us out." This is an illustration of how friends and close community members provided the businesses with support.

In another instance, Retailer 05 was assisted by her employer for whom she worked part-time. The previous business building was severely damaged and the business owner had to relocate. The other company (employer) helped her by providing space so that she could keep her business equipment safe: as she said, "I suppose [Company name's] did help me because when I shifted the stock I didn't have a building to put it in so they stored it in their storeroom for me. So I suppose [the company] did help me there." As a result of this favour, the business owner was able to focus on finding alternative premise without worrying about the safety of her equipment and material.

A thorough investigation of the data provided information about the specific types of networks businesses drew upon. Networks consisted of close community connections with friends, family and neighbours which are personal, informal connections. Other networks were made up of customers, suppliers and other organisations. These are more professional, formal connections. The following two sections elaborates on these networks.

### **8.1.1. Informal network**

Different examples in the data reflect how immediate family members, extended family members and friends provided support for business owners. This also included help from their neighbours and local community members. These are included under informal networks because there is unstated link between these networks and the business owner. This is evident in the quotations in Appendix N which provides examples of how the business owners utilised informal networks to recover from the aftermath of the disaster. This table shows the first and second cycles of coding of the quotations; some of these examples are discussed in this section.

Informal networks helped immediately after the earthquake in a variety of ways. For example, family members, friends and neighbours helped to move equipment, buy goods from local businesses to increase their morale and supported them to carry on with their day-to-day operations. These individuals and groups are among the first approachable contacts during a crisis. The data showed how the amount of help from these informal connections has influenced the recovery of the firms. For example, as the owner of Retailer 08 mentioned,

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*“We did get some help from my family overseas with some money to help us to re-establish a new business. Family and friends helped us shifting some of the equipment when we were allowed to get inside to recover stuff.” (Retailer 08)*

---

This restaurant business’ previous building was severely damaged due to the earthquakes and aftershocks. The business owner is an immigrant and he acquired help on two levels; 1) family members living overseas gave him money to start again and 2) family and friends in Christchurch helped him to move equipment from the old location to the new one. As the previous building was damaged, the business owner had to start again: this included designing the layout of the restaurant and reconfiguring the kitchen. The financial and emotional support from family and friends enabled him to start again.

As a result of the help he received, the business owner was able to quickly re-establish himself and his restaurant. People were eating out at restaurants more frequently because they didn’t have cooking facilities at home due to earthquake damage which was also a significant factor in re-establishing the business. The surrounding community wanted to help businesses in the vicinity to ensure that they stayed in the same area. People wanted to feel a sense of normality and get back into their usual routines and going to the same places and businesses was an important part of that

In another example, the business owner of Retailer 15 mentioned how him and his family had to stay with a nephew because their house was damaged. The fact that they were able to stay with extended family members stopped him from worrying about his family and their wellbeing. Although, with regard to the business it was an indirect help. As a result of having somewhere safe to live, the business owner was able to focus on his business. It relieved some of the pressure on the business owner.

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*“We stayed at our nephews place for two days. It was so kind of him to let stay at his place. His house was in better condition. Some places were damaged more than others.” (Retailer 15)*

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In the data, it was also evident that friends were helping business owners to cope with the disaster. They assisted business owners with planning and growth strategies. Friends also spent time with them and provided them with emotional support. I call these individuals “**Business consociates**”. Consociates are, by definition, partners in the business; however, ‘Business Consociates’ is coined for the friends involved in the business. These individuals have close relationships with the business owners but do not have any financial interest in the business. In times of crisis, they help with whatever is needed to get the business up and running again. They are involved in planning and physically setting up machinery, shelves and material. For example, the owner of Retailer 18 stayed at their friend’s house for several months because their own house was severely damaged. These business consociates helped them financially and saved them from having to find a new place to live:

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*“By the time we lived in [area name skipped for anonymity] in a friend's house that was away overseas from the 1st April 2011 to the 1st September 2011. Friends, our friends in [area name skipped for anonymity] put us up from September to Christmas. We lived in their house” (Retailer 18)*

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Business consociates also helped business owners in terms of their health and wellbeing. As the owner of Retailer 17 noted:

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*“We got some people asking us and see whether we are okay. I think they are concerned about us but in terms of the health, physical health. **More support you know and encourage, that's all fine.**” (Retailer 17)*

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The community and neighbourhood also supported these local businesses. The residents of the area arranged trucks to block the road for a certain period of time so that the business area was clear and owners could remove equipment from their shops. The community was quick to respond and did so within the given timeframe. One business owner spoke of the ‘community spirit’ (term used by Retailer 20).

For example, Retailer 20 is a fashion clothing store. While there was no visible damage to their shop, the building was deemed unsafe due to structural damage. After the evaluation, the business owner and various members of the community removed all of the interior shelving so that she would not lose her investment in it. Community members and friends came together to help. They sorted the trailers and found a place to store all her equipment and materials:

---

*“But the **community** here, like we were given 48 hours to get out of the shop... Within half an hour, three quarters of an hour of them being aware of our situation, we only had until I think five thirty to get out of the building, they turned up about quarter to five with two big trucks. They stopped all traffic on High Street. There was about 10, 15 guys just came in and said right, what can we do? They just ripped carpet up, took lighting down. They were awesome and just loaded everything into these trucks. This is the **community spirit**. And just took them away from us to another location while we sorted things out.” (Retailer 20)*

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Examples such as these illustrate the importance of informal networks who help during times of need. Family and friends were able to provide immediate support. The informal structure is quick, readily available and reliable. People closer to you understand more and know what the business owner is going through. There is no expectation of payment; as the interviews revealed, all was done voluntarily.

The interviews also revealed a second type of network: These are formal connections such as customers, suppliers and other related businesses/partners. This network also provided the interviewed business owners with support in the aftermath of the earthquakes.

### **8.1.2. Formal networks**

Formal connections refer to entities who are related to the business in some way; they can be buyers, suppliers or other intermediaries. These connections can be divided into direct or indirect connections. The direct formal connections are first tier entities for the businesses and are immediately impacted by the businesses’ decisions and vice versa. These include suppliers and buyers. In contrast, indirect connections are broader, second or third tier entities which may impact businesses in the general business environment, such as councils and insurance companies. The business owners spoke of the importance of these formal indirect connections. For example, some of the business owners received help from the council or insurance companies (in the form of extra time to pay their bills). The difference between direct and indirect connections is that indirect connections may influence an individual business as well as its competition. Whereas, direct connections specifically impact individual business. Appendix O shows direct and indirect connections in the business owners’ formal networks which were taken from interview excerpts (first and second cycle codes are also provided in the table).

### **8.1.2.1. Direct formal connections**

#### **Suppliers**

Suppliers are formal connections which the company has already established before the earthquakes. These are the firms which the businesses deal with on a regular basis. In many cases, suppliers helped the affected businesses by offering easy credit terms, providing them with workspace, and putting stocks into their shops without any obligation to sell their products. These examples highlight the importance of suppliers and how businesses rely on their direct formal networks.

Retailer 16 was a new business in Christchurch. The owner had just moved from Auckland and was hit hard by the earthquakes. As she did not know many people in the area and had fewer connections, she packed up her stock and shipped it back to Auckland where she could rely on her networks. With more people to support in her network in Auckland, she sold her stock up there. After that she returned to Christchurch and slowly started rebuilding her business. She had a supplier who was willing to provide her with stock. She did not have to pay for this stock; instead she paid the supplier as she sold it. As the business owner noted:

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*“Just to help us because we had to reopen and we had not stock to put in there. He said look, I will send you down some stuff, if you sell it you sell it, if you don't you don't, just pay me for what you sell. So he was really good.” (Retailer 16)*

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This strategy enabled the business to get back on its feet. This example shows a reciprocal relationship; the supplier was able to display his stock and the business owner was able to attract customers and sales without having to pay for stock in advance. This theme is developed later in the chapter.

#### **Customers**

Direct formal connections also include customers who are an essential component of business recovery. Customers assisted local businesses by helping them move to new locations, buying products from them to maintain sales levels and supporting them by regularly visiting them and encouraging them to carry on.

Retailer 13, a café, was fully dependent upon customers. The owner spoke about how the local community supported her by buying food and drinks. Customers were also keen to keep the café open so that they could return to ‘normal’.

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*“They just come every day, very loyal customers. They just kept supporting and showed that they are here and buying from the local cafe.” (Retailer 13)*

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### **8.1.2.2. Indirect formal networks**

#### **Government/council**

The government’s help was appreciated across the cases of this research. The government offered Earthquake Support Subsidy (ESS), which was a huge relief for the employees as well as for the businesses. This, alleviated the businesses, enabled them to take measured steps. Besides, council also supported the businesses to find new locations, facilitating them with alternatives for operational aspect of conducting the businesses. Central and local governments put the combined efforts to facilitate the small businesses. It seems an out of scope for traditionally defined social capital but in a small country such as New Zealand where everything is connected, it makes sense to include these connections in the network which the businesses can rely on.

For instance, B2B 04 shared the experience of how the government and other official agencies helped the business. Although this business had financial reserves, the financial help from the government provided them with relief and they were able to utilise some of their financial savings for other business activities/expenses.

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*“So the govt. paid a certain amount of money to the businesses to keep them going over that period. So that then, in the end the money paid the wages basically for about half the wages for the staff for a period.” B2B 04*

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#### **Formal business groups**

Formal business groups were also formed after the earthquakes where business owners could seek social support, discuss the business prospects and conceptualise the future of their businesses. These formal business groups helped the businesses in many different ways. They facilitated them in brainstorming and decision making. The unique feature of formal business groups is that they are generally formed after a crisis has struck. Before the earthquakes, some of the businesses did not realise the importance of these industry groups. The businesses joined them after the earthquakes.

For example, Retailer 21 is running an auto mechanic shop. The business owner acknowledged that she did not feel the need to interact in the groups prior to the earthquakes. She also mentioned that she did not understand the importance of the networking. She joined a women’s entrepreneurial

group and realised it has made difference to how she now makes decisions and manage her business operations. She now is part of this group which has given her the courage to take bold steps, make plans and progress as business woman. As she mentioned:

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*“For me, I think for me on a personal level it's about engaging with the community, particularly the business community. I personally got involved in the [association's name] which is the business network. So it's about interconnection. It's like you're never too old in business to learn. In fact, if you don't keep learning you are going to go stale and I'm talking about both technology-wise and from a personal growth point of view.” (Retailer 21)*

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**Summary:** The formal ties were more crucial for the day-to-day running of the business and operationally helping the running of the business. For example, the customers buying from the local shops and suppliers giving relaxed credit terms. These are more service-based support than listening and advising. This shows that the suppliers and customers are involved in the payments of some kinds, this makes the relationship two folded. The supplier, on one side, want to earn the profits but the disaster was huge that the suppliers realised the constraints of their customers. On the other side, they did not want to lose the customers (case studies) so they supported them to recover. From the customers' side of these businesses, they wanted to see the normal working life in their surroundings. Because most of the businesses were closed and the customers wanted to buy things, hence, supported the local businesses by buying products from their local businesses.

Figure 8-1 shows the summary of types of network the cases utilised in their recovery trajectory. These networks helped the businesses in different ways. The cases in this research discussed the dynamics of these networks helping and supporting them.

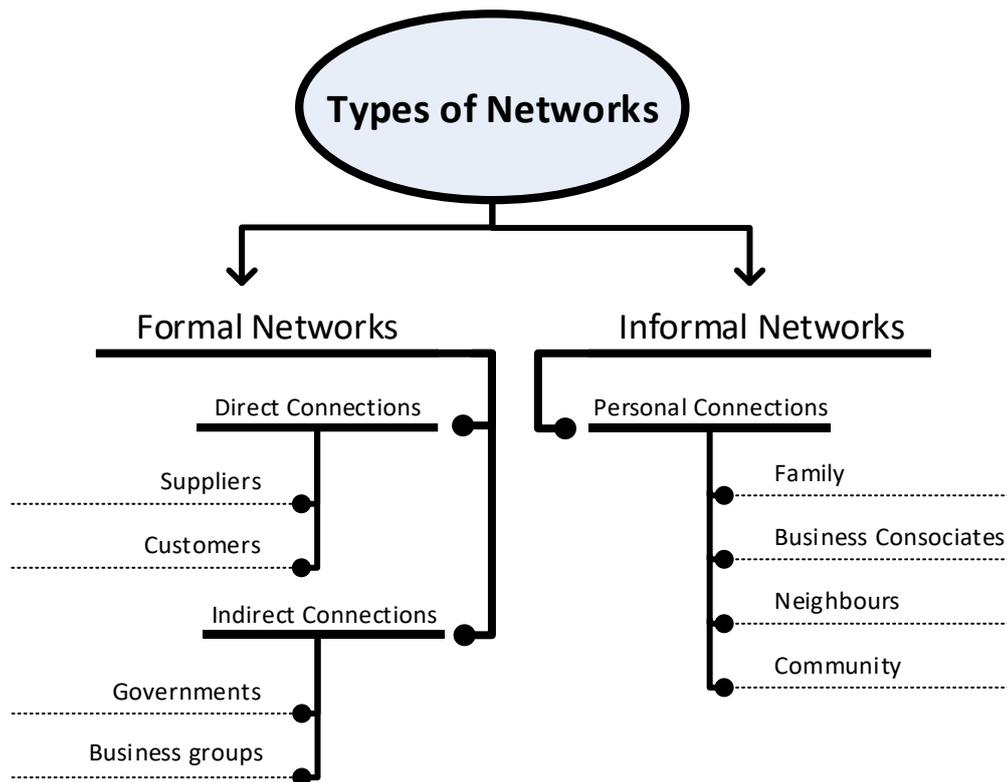


Figure 8-1: Types of networks

## 8.2. Development of social capital (links to the initial framework)

The initial framework (Chapter 5) illustrates the different types of networks; formal and informal. Later analysis confirmed that social capital is more than simple connections; the interviews not only showed that there are many different types of networks but that there are different ways of utilising these connections. While some individuals provided financial help, others spent time helping the business owners create plans for recovery. Others supported them emotionally, asking about their mental wellbeing. These connections are the relational aspects. However, how these relations are built and fostered prior/post-earthquakes defines the nature of social capital. The willingness of business owners to spend resources to maintain, develop and capitalise on these connections define social capital. In short, social capital is the mechanism through which these connections are operationalised in a time of crisis.

The examples, discussed in this chapter, shows that leveraging the networks enabled the businesses to recover. A clear understanding about the role, significance or types of networks is needed to ensure the best define social capital. Business owners were asked to provide specific information about their networks and how they helped them after the earthquakes. The analysis showed that Business owners utilised their contacts and networks in various ways. The level of help and support they received also

varied greatly. Table 8-1 summarise the understanding of type, significance and kind of help business owners acquired after the disaster.

Type	Significance	Kind of help provided
As a friend, business partner, industry group, neighbour or community overall	Higher significance means that the business came out of the hard time easily/promptly Lower significance means that although the help was there the business did not need it because they had utilised other avenues to recover	Financial, emotional, time-based

**Table 8-1: Role, significance and kind of social capital**

The type of social capital was summarised in Figure 8-1. For instance, as business owner of Retailer 16 explained, “he [supplier] put more stock into my shop on sale or return.” This was a huge relief for the business owner as the supplier gave the stock free of cost with no expectation of sales. This depicts the importance of the business owners’ network.

The intangible aspect of the network is observed. It is the extent of the bonding of these relationships defines how much the business can rely on these networks. While it is easier to estimate the value of financial or human capital it is harder to do so in terms of a particular network. While a business owner may invest time/money/energy into a network there is no way to determine what benefit s/he will receive. It is for this reason that I argue that social capital is an enabler of business recovery.

The significance for the businesses of these networks is another part of social capital. It can be understood by the value the business owner was giving to the help offered. Some businesses were offered help but declined because they had what they needed. As the B2B 05 business owner mentioned;

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*“There was some touching things. We had an engraving company in Wellington getting in touch with us and say if you're in any trouble down there, if you've got machinery that's broken or staff that have left and you are in trouble with being able to make things or deliver things, we will do it for you. It was just an email arrived out of the blue saying if you guys need any support let us know. That was nice of them to do. We did not need that and then these people said good on you, you can count on us to keep supporting you.” (B2B 05)*

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This shows that the value of the social capital differs as per the need of the business owners; not everyone used their networks or needed help from others such as B2B 05. This particular business had

the necessary resources to cope with the disaster. However, after the earthquakes there were some business who relied heavily on their networks for planning, assessment and mitigation of the damage. Another major aspect of social capital relates to the kind of help and support the business owners acquired. There were three main kinds of help the businesses received; emotional, financial and time-based. For example, retailer 17 received family support: “My wife helped me from time-to-time.” This is an example of time-based support. Family members and friends asked business owners if they were fine and thus helped them to recover. Family, friends and neighbours also provided business owners with advice. Some offered financial help or provided spaces where they could re-establish their businesses, often free of cost. Businesses were assigned scored based on their type, and what help they received (see Table 8-2). This table shows three social capital parameters; significance, types and the kind of support the businesses received. A ‘✓’ symbol indicates that help was given, whereas a ‘-’ symbol means that no help was given/needed. A similar system is used to illustrate formal and informal networks. A scale from 1 to 4 is used to indicate significance i.e. the level of help these networks provided and how much is the value of the support for the businesses (4 being the highest and 1 being the lowest).

	Company Pseudonym	Outcome	Significance	Informal			Formal				Kind of support		
				Family	Friends	Neighbour/ community	Buyers	Suppliers	Government/ council	Industry groups/ networks	Emotional	Financial	Time-based
10	Consultant 02	4	2	✓	✓	✓	✓	-	✓	-	✓	-	-
11	Construction 02	4	2	✓	✓	✓	-	-	✓	✓	✓	-	-
12	Construction 03	4	2	✓	✓	✓	✓	✓	✓	-	✓	-	-
13	Retailer 04	1	4	✓	✓	✓	✓	-	✓	-	✓	-	✓
14	Retailer 05	3	3	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
15	Retailer 06	1	3	✓	✓	-	-	-	✓	-	✓	✓	-
16	Retailer 07	3	3	✓	✓	✓	-	-	✓	-	✓	✓	✓
17	Retailer 08	4	3	✓	✓	-	-	-	✓	-	✓	✓	✓
18	Retailer 09	3	4	✓	-	✓	-	-	✓	-	✓	✓	-
19	Retailer 10	4	2	✓	✓	✓	-	-	-	-	✓	-	-
20	Retailer11	4	2	-	✓	-	-	-	-	-	✓	-	-
21	Retailer 12	4	3	✓	✓	✓	-	-	✓	-	✓	✓	-
22	Retailer 13	3	3	✓	-	✓	✓	-	✓	-	✓	✓	-
23	Retailer 14	3	2	✓	-	✓	✓	-	-	-	✓	-	✓
24	Retailer 15	2	4	✓	✓	✓	-	-	✓	-	✓	✓	-

	Company Pseudonym	Outcome	Significance	Informal			Formal				Kind of support		
				Family	Friends	Neighbour/ community	Buyers	Suppliers	Government/ council	Industry groups/ networks	Emotional	Financial	Time-based
25	Retailer 16	3	4	✓	✓	✓	-	✓	✓	-	✓	✓	-
26	Retailer 17	3	3	✓	-	✓	✓	-	✓	-	✓	✓	-
27	Retailer 18	1	3	-	✓	-	-	-	✓	-	✓	✓	-
28	Retailer 19	4	3	✓	-	✓	-	✓	✓	-	✓	✓	-
29	Retailer 20	4	4	✓	-	✓	-	-	✓	✓	✓	✓	✓
30	Retailer 21	4	4	-	✓	✓	-	-	✓	✓	✓	✓	✓
31	B2B 04	4	2	✓	✓	✓	-	-	✓	-	✓	✓	✓
32	B2B 05	4	2	✓	-	✓	✓	✓	✓	-	✓	✓	✓

Table 8-2: Social capital: significance, type of networks and kind of support

Close analysis of the later data also revealed that informal networks were more effective compared to formal networks; this is clearly shown in Table 8-2. There was a relationship between the type of connections businesses had and the kind of support they received. While informal networks were less able to provide financial support, business owners greatly valued the emotional support they received. Friends, neighbours and the wider community spent time with and provided a safe space to share their experiences of the earthquake. Additionally, these informal networks provided business owners with immediate support. Customers, buyers or government agencies often take time to respond. Family, friend and neighbours are connections that businesses can rely on to help straight away. While formal connections can provide financial help, this often took days, weeks and even months. This table also shows that emotional support was offered to all the businesses. This means that the social capital hugely helps the businesses in their emotional boost and mental wellbeing. The second most important kind of support was financial. Financial support came mainly from the government in the form of subsidies for the businesses and its employees were given.

The most crucial element of social capital is the significance of the social capital i.e. whether the individual businesses think the specific forms of help have value for them or not. This shows whether the businesses perceived it as important or not. The table shows that the businesses with high levels of adaptive cognitive coping were of the view that they did not need help from their networks. In their view, they were more than able to cope with the disaster. For example, the B2B 05 owner did not need help from his formal networks; he was able to move premises and re-establish his business by himself. While his family provided him with help in setting up his business, he did not need help from formal contacts; thus, he was assigned a score of two for social capital.

The kind of support businesses received also varied for the businesses. For example, Retailer 04 discussed the importance of emotional and community support for overcoming fears associated with the earthquakes. For other businesses, planning and financial help was the most important element in their recovery. In conclusion, the social capital was more of an aid to boost recovery, rather than the mean to achieve the desired performance. Figure 8-2 summarises the social capital theme for the interviewed businesses.

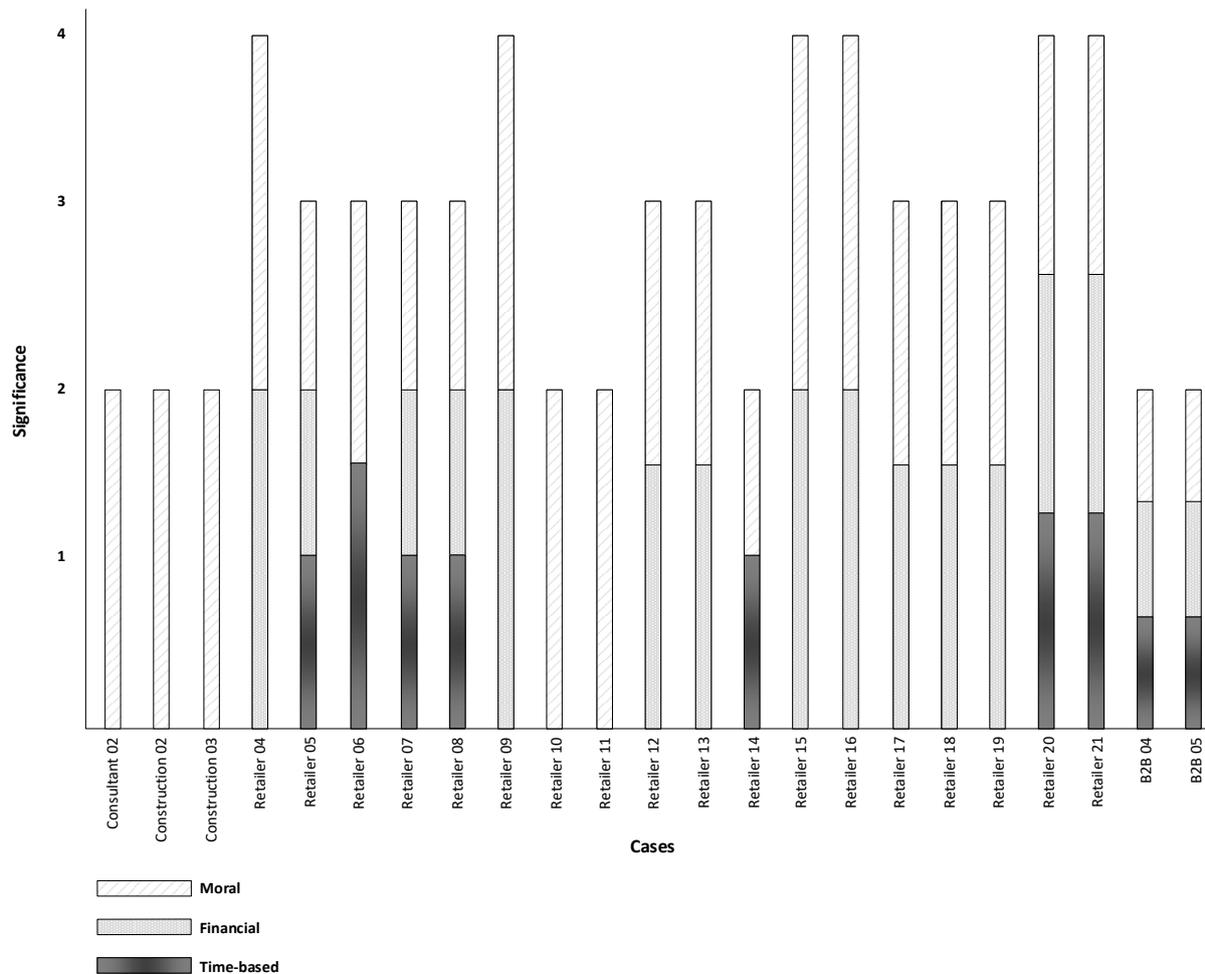


Figure 8-2: Social capital

### 8.3. Dynamics of social capital

There are a few dynamics businesses need to understand to operationalise their social capital. These dynamics will help business owners to make sure that they ‘look after’ and build/maintain their social capital (nurturing their formal and informal networks) so that they are there to call upon when they need help. The data showed that the businesses relied upon these networks to function as best they could, given the circumstances. This chapter has shown the importance of both formal and informal networks in an adverse event and how the interviewed businesses used these networks to ensure the recovery of their businesses

### **8.3.1. Altruism vs social capital**

When a disaster hits, people have a great desire to help those communities which have been affected. New Zealand has one of the highest altruistic scores, alongside countries such as Finland, Croatia and Canada (Vakoch, 2013). The earthquakes led to a massive response from the Canterbury community. Volunteers were quick to help those who had been affected. This quick response was the result of altruism. Sometimes the philosophies of altruism form the starting point for the social capital of businesses; it has been stated by Schultz (2001) that altruism is a fundamental driving force for a supportive behaviour. However, I argue that the sustained ability of the networks to support businesses goes beyond the territory of the altruistic approach. This is the main difference between the altruism and social capital is the sustained or long-term help. In this case, altruism refers to spontaneous help businesses received from the community where as the social capital is sustained support which strengthened the bonds among different formal or informal networks; whereas, altruism is often strangers helping other strangers (Rushton, 1978).

Businesses needed to approach their networks for help with resources, information and support to lessen the impact of the disaster and provide longer term help to ensure the recovery of their businesses.

### **8.3.2. Already established networks**

The businesses gained support from networks developed over time. Another interesting observation is that there were no new networks formed after the disaster. The social capital was invested in and formed prior to the earthquakes. The already developed structure of the networks were able to provide opportunity for businesses to capitalise on and recover better. This also shows that the business owners were unintentionally creating this resource without even realising it. Close connections, like friends and neighbours, were particularly important. Almost all the networks in the research were prior connections except for a few instances like the case of B2B 04, where an unknown company called and offered to help.

### **8.3.3. Two-way support**

Every business has different capacities to react to the changed environment; while some businesses needed help after the earthquake, others were able to help others who needed it. Some of the businesses indicated that they also helped many others in the community. This shows that businesses not only take advantage of their networks but also invest in them. All of the businesses differed in what they could offer – time, money or resources. Hence, the data showed the business tried to give

back to community according to their capacities to offer help; this is a system of giving and receiving. Sometimes the businesses received more than they gave, other times it was reversed.

Social capital is a resource which benefits businesses, but they must nurture relationships so that they can rely on these networks. This two-way interaction is what makes it a unique resource; Social capital is nurtured by reciprocity. There was a circle of people who received help and there were those who were in a better condition and helping others. This is motivated by the community spirit prevailed in the business owners and their understanding of contributing to the people of need. For example, Retailer 07 stated;

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*“First, my husband he came in New Zealand over 20 years now, so he did a lot of community work. Especially when the earthquake time he forgot our home. He spent all his energy to help in the community” (Retailer 07)*

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She emphasised the importance of the community throughout the interview. She stated that her and her husband were involved in community work and explained how they were able to help the family of one of the collapsed CCTV building victims. Likewise, the B2B 04 owner stated, “So we donated a lot of time and effort in helping people. And that made us feel better.” This shows how the business owners not only utilised their social capital but they gave back to the community in the form of helping employees and the community in general. This reciprocity nature of social capital of helping and giving back enabled to nurture these relationships and networks.

#### **8.3.4. Grew stronger**

In times of difficulties, the businesses leaned on existing networks after the earthquakes. Though, the extent of the prior relationships was not as stronger before, however, a collective aim of getting back together as a community helped these relationships became stronger after the earthquakes. As the owner of retailer 04 noted;

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*“Their houses had no power no electricity no water. So date stayed with me. It was support that everyone is living close together and in case if something happens bad or another earthquake hit we can support each other. Everyone was afraid at that time. We talked we discussed and get rid of all our worry. We made dinner together. We spend time together.” (Retailer 04)*

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This quotation shows that the earthquakes brought people closer and their bond was stronger than before. Even now, the businesses have informal chats with their networks about their experiences. Although, the networks and connections were there before the earthquakes, the importance of these relationships was highlighted by the earthquakes. They didn't need each other as much as when the earthquakes first happened. However, the people who supported them became friends and businesses knew that they could rely on their networks in times of difficulty. In a way, the earthquakes made the already developed connections stronger and made the businesses realise that infrastructure and finances are not the only resources they have; they have external networks they can lean on when they need to.

#### **8.4. Conclusion**

Social capital played a significant role in the interviewed businesses' recovery. The business owners talked about their networks and social capital and emphasised the importance of utilising their networks. The cognitive abilities (Chapter 6) and the coping abilities (Chapter 7) are personal characteristics. While these two are helpful, having a good network and relationships is essential for business recovery, during or after a crisis.

While the importance of social capital for larger firms has been highlighted in the literature, there is much less work on social capital as a resource for SMEs (Luthans & Youssef, 2004; Russo & Perrini, 2010). The business owners of small businesses have limited tangible resources. Social capital is an intangible resource which is often ignored. Like every resource, social capital needs investment from the business owners. The current study shows that business owners socialised prior to the earthquakes, and nurtured relationship through giving others time and attention. The business owners had previously developed these relationships, even though the bonding was not strong. However, knowing that there were some connections the business owners can lean on in times of difficulty provided a psychological advantage for the interviewed businesses. For example, Retailer 17 was relieved relaxed after knowing that his overseas family would provide financial support.

Interestingly, unlike other resources businesses have, these networks are hidden resources that require lesser investment from the business owners. However, the extent to which they can provide support is substantial when considered in terms of investment. The setting, in which the friends or colleagues connect with the business owners, forms a safety cushion which can be rely on during difficulties. As the interview subjects noted, these networks provided the businesses with financial assistance, premises to operate from and people to listen to their concerns or worries.

The owners in this research emphasised the strong sense of relationship building. The merits of developing a network has been established (Coleman, 1988). These networks were essential for the

businesses' Recovery. Significance refers to the strength of the bond between business owners and various individuals (partners, suppliers or customers).

## **Chapter 9. Recovery of Small and Medium Enterprises (SMEs)**

The previous chapters have identified emerging themes in the data. This chapter elaborates on how these themes are linked to each other to propose a recovery theory for SMEs. To briefly recap, the three major themes are cognitive coping, adaptive coping, and social capital. Cognitive coping refers to business owners' personal characteristics: these are abstract and often hidden business owners' attributes. Adaptive coping refers to the business owners' action orientation. Social capital is a resource gained through formal or informal external networks, which business owners possess and which they can utilise after a disaster. This chapter combines these three to propose a mid-range theory. The chapter describes the implications and limitations of this theory.

### **9.1. Observations**

As noted in previous chapters, the initial goal of this thesis was to determine whether SME business owners adopted new business practices after the Canterbury earthquakes. As the data collection progressed, it became clear that business practices did not significantly change. Various other aspects were important in business recovery post-earthquake. This section elaborates on three general observations made during the data collection and analysis process. This discussion lays the foundation for the theory discussed later in this chapter.

#### **9.1.1. Business models and SMEs**

As discussed earlier, grounded theory methods were used to understand the dynamics of SMEs after the earthquakes. While the business model canvas was used to develop the initial interview questions, it became apparent during the interviews that the business owners' stories were much bigger than what could be captured by the business model canvas. In fact, the data strongly suggested that the business model could not explain the recovery of the SMEs. As one business owner (Retailer 02) said, "paperwork is all rubbish." There might be several reasons of this kind of statement. Either business owners do not understand what a business model is, or they do not consider it important enough to spend time developing one. Storey (2016) found that small businesses are less concerned with the formalising their systems and their decision-making processes. According to Sullivan-Taylor and Branicki (2011), less formalisation and constantly adjusting to an ever-changing business environment, proved to be an asset; it is good for SMEs, as recovery and survival becomes business-as-usual and gives them experience of dealing with uncertainties. According to De Vries and Shields (2006), this increases tolerance for ambiguity and enables businesses to adapt. It is safe to assume that SMEs are generally adaptive and flexible in nature.

### **9.1.2. SMEs and their way of operating (business-as-usual)**

Another related observation is about how the small businesses generally operate. They customise products, their reporting lines are simpler, and they are more flexible. SMEs tend to customise their services or products to their customers' specific needs. For example, Retailer 01 customised jewellery according to customers' demands. Likewise, B2B 03 provided customised designs for its customers. It is possible to modify products or product offerings due to smaller scale operations. SME owners can also go to the extra lengths to keep their customers happy. In larger organisations, it may be harder to provide customised services/products because of organisational procedures. In SMEs, decision making and reporting lines are much simpler. Business owners can adjust product offerings overnight because there is no need to gain approval from any management teams. In short, SMEs tend to be more flexible. These businesses can use a trial and error approach to reach their desired outcomes. Most SMEs rely on the customers' footfall and on customers based in close proximity of their location. This is particularly true for businesses such as beauty salons or restaurants. Location is also important for some consultation businesses, because the clients want to physically visit the business or have the business provide services in-person. In SMEs, the business owner is the main decision maker. The business owners define the structure, layout and the day-to-day operations of the business. It was observed that businesses take on aspects of their owners' personalities. Therefore, many of the emergent aspects, in this thesis, revolve around owners' individual characteristics: their ability to act and utilise their networks. In short, SMEs and business owners are inseparable. During the interviews/data collection process, it became evident that businesses reflected their owners. This idea is discussed further under the cognitive coping theme.

## **9.2. Three emergent themes**

This section summarises the three emergent themes. Table 9-1 provides all the scores of businesses in this thesis. Three distinct SME groups are generated using these scores. A pictorial representation shows how the emergent themes were combined.

### **9.2.1. Cognitive coping**

Cognitive coping refers to business owners' mind-sets and motives. Motives and mind-sets (Chapter 6) determine the path the business owners take after a major disaster. Business owners drive the recovery of their businesses. If business owners do not have the right motives or mind-sets, the business is not likely to recover. In this thesis it has been established that cognitive coping is the personal, human characteristic that define the SMEs recovery trajectory.

SMEs CEOs/managers deal with daily routine tasks which is challenging on its own. The owners are the only ones responsible for making decisions which provides them with flexibility in terms of their operations and the space for innovation. Due to this autonomy and freedom, owners intentionally or unintentionally project their own personalities onto business practices. In time of crisis, the owner decides how they want to conduct recovery measures. If the owner is persistent, the business will likely to be firm in its standing; they all had failures and hurdles, but they were able to keep operating despite these. However, if the owner thinks that they cannot recover their business, then it will either close or not thrive after a disaster.

The owner-manager's (Centeno, Cambra-Fierro, Vazquez-Carrasco, Hart, & Dinnie, 2019) personal attributes may impact on how they brand their business. According to Centeno et al. (2019), SMEs are extensions of their owners' personalities, likes, competencies and knowledge. Though they talk in general about business-as-usual and it's branding for the customers. This thesis argues that motive, personality and likes/dislikes become more apparent or intensify (so if the owner is motivated to succeed pre-earthquake, then they may become even more determined post-earthquake). The cognitive framework developed in this thesis shows that owners' motives and mind-sets are the driving force for business recovery. The business owners' motives, as well as their lifestyles, routines, habits, liking their work and other aspects enabled them to carry on after a major disaster.

Entrepreneurship scholars have investigated what leads to the creation of a firm. They use the term 'Entrepreneurial Intention (EI)' to describe the entrepreneurial mind-set (Bird, 1988; Shook, Priem, & McGee, 2003). Certain individuals demonstrate a willingness to work hard to achieve a desired outcome (Mwiya, Wang, Kaulungombe, & Kayekesi, 2018). Although some entrepreneurship scholars see entrepreneurial adventure and small businesses as separate fields, I argue that SME owners show initiative when they begin their own businesses. Their intention to start a new business is based on the same principles. In the face of a disaster, their intentions and willingness to keep the business running requires the same mind-set and intention to acquire the desired results. According to Mwiya et al. (2018), the stronger the intention to generate a specific outcome, they more likely they will achieve their desired result. This argument supports the cognitive coping aspect of the recovery theory. When the business owners had higher cognitive levels, their outcomes were growth, or at the very least, returning to their pre-earthquake state.

Various studies also argue that the leadership quality, work engagement (especially in employees' perspectives), decision making abilities and effectively analysing the situation enables businesses to recover quickly after a disaster. My research takes a stance on the motives and argue that while decision making affects SMEs, what we need to analyse is the context of the decision making (what is

going on in the background). For example, decision making definitely affects SMEs but what are the aspects leading to these decisions making, what is happening in the background of these decisions is important to analyse. For some businesses, the motive may be maintaining a particular lifestyle, while for others, their passion defines their decision-making capabilities. This research has identified the hidden, invisible aspects that influence the recovery trajectory. This thesis argues that the most important aspect of recovery is the business owner's cognitive framework.

Moreover, my research supports the entrepreneurial attributes discussed by many authors. These attributes are motivation, perseverance and optimism (Trevelyan, 2008). Motive is considered the driving force for business owners. Perseverance and optimism refer to their mind-sets. There is evidence that most businesses fail because of a lack of knowledge and skills (Beresford & Saunders, 2005). The business owners interviewed for this thesis had sufficient knowledge to run their businesses. Poor performing businesses did not have the will or determination to undertake their businesses on a recovery trajectory and grow as a result. They just merely wanted to survive and keep their businesses afloat so they could earn enough to live on.

Small businesses are described as an informal bunch of entities, which are intuitive, prompt and encompassing all the business aspects on a smaller scale (Paige, 2002) and (Gibb, 2000). Dexter and Behan (1999) describe small businesses as emotional economic units. According to them, small businesses see themselves in action. In short, they do not make comprehensive plans first and then manage them. While smaller organisations are less likely to make plans, they can rely on their owners' ability to transfer the thinking into action. That is why the current research sees SMEs as a reflection of their owners.

### **9.2.2. Adaptive coping**

In this thesis, the adaptive coping framework refers to a combination of adjusting, learning and risk management. Many studies have discussed the resilience of organisations, especially in relation to larger firms. Scholars have examined SMEs in terms of absorptive capacity (Cohen & Levinthal, 1990), resilience (Hatton et al., 2012; Ingirige et al., 2008) and crisis planning (Vargo & Seville, 2011). However, there has been no research on SMEs and their recoveries after major events in relation to the three specific attributes identified in this thesis.

Additionally, most of the SME studies relate to their day-to-day operations. For example, Matthews, MacCarthy, and Braziotis (2017) examine the process and continuous improvements in normal working conditions for small firms. The author focuses on the International Organization for Standardization (ISO) standards and how SMEs can improve their processes. This thesis has taken

learning as a continuous process to improve strategically, process-wise or in terms of social interactions, especially in the disaster recovery process.

### **9.2.3. Social capital**

In this research, social capital is divided into two main groups: informal and formal connections. There is no denying that social capital plays an important role in small businesses (Gao, Sung, & Zhang, 2013), start-ups (Lee & Jones, 2008; Liao & Welsch, 2005) and entrepreneurial ventures (Anderson et al., 2007; De Carolis, Litzky, & Eddleston, 2009). It is also widely accepted that social capital provides a competitive advantage for businesses and helps create synergies (Gao et al., 2013). In this research, social capital is seen as a resource. The interviewed SMEs intentionally or unintentionally created networks which provided support during the recovery process. The significance of social capital depended on the individual businesses. Some businesses were self-sufficient and did not need outside help (from their networks or the government). But some businesses relied on their social capital to overcome various challenges presented by the earthquakes.

Social capital enables firms to gain a competitive advantage over others. Economic and social development is also influenced by the role networks and connections play (Adam & Urquhart, 2009). Additionally, there are different types of social capital – bonding social capital (structure of networks) and bridging social capital (interpersonal relationships) (Chenhall, Hall, & Smith, 2010). Bridging social capital is evident in this thesis in the type of networks which were available for the businesses. Bonding social capital is the kind of support SMEs received from their networks. The interpersonal relationships (bonding) define the kind of support businesses will receive during/after a disaster.

The main argument is that the informal connections are the immediate help that the businesses acquire through their friends, family, neighbours and community. Aldrich and Meyer (2015) notes that informal ties, such as neighbours, are often the first responders, before formal help or aid arrives. In this thesis, informal networks provided the initial support: rescuing individuals from the debris, and cleaning and decluttering spaces immediately after the earthquakes. Informal networks also checked on wellbeing of others and emotionally supported throughout the recovery trajectory. Additionally, these informal networks provided information, financial resources and emotional support. These findings are consistent with prior research (for example, see Elliott, Haney, and Sams-Abiodun (2010) and Hurlbert, Haines, and Beggs (2000)). Some businesses were self-sufficient and did not require help (or refused help) from their formal connections. Thus, this aspect is called the ‘significance’ of social capital.

Different forms of collaboration (whether business partnerships or networks) are stated by (Lee, Park, Yoon, & Park, 2010). Putnam (2000) refers to it as the collective value of social networks. He notes the interest it generates to support each other in those networks. For Bourdieu (1986), social capital is a collection of resources which depends the quality of linked, established and connected relationships and networks. The nature of the social capital is mutual. Better outcomes for all can be achieved through social capital (Boohene, Gyimah, & Osei, 2019). Using dyadic connections, relationships, information and resources can be developed and leveraged when needed (Granovetter, 1985).

For SMEs, government support is essential (Mendoza, Lau, & Castillejos, 2018). They take the example of the Indian Ocean Tsunami which struck in 2004 and tells the story of Indonesia's successful recovery. Their recovery was attributed to government's funding. This is consistent with the current research's findings. The data suggested that government help and subsidies enabled the businesses to pay their bills. Employees also acquired funding from the government. This kept the businesses operational after the disaster. Budgetary matters were dealt with via subsidies so that business owners could concentrate on other operational aspects. This is considered part of social capital; these are indirect formal connections. These connections helped the wider business community.

Other research elaborates on the importance of government funding (De Mel, McKenzie, & Woodruff, 2011). Businesses in Sri Lanka which were impacted by the same Indian Ocean tsunami in 2004, were given cash grants to help with their recovery. A similar trend was seen in the current study where owners acknowledged the importance of government grants for small businesses.

The current study also helps to explain the dynamics of a community in the face of a disaster. The businesses acknowledged that locals provided emotional support (by asking how the business owners were doing), helping them relocate their businesses, and buying as much as they could from their local businesses to boost their sales. Mendoza et al. (2018) suggested that household grants should also be given to households to encourage them to buy from local stores because this would speed up the recovery for SMEs in the post-disaster situation. However, there was no evidence of household grants being used to increase local businesses sales in my data. However, this is a good suggestion for the local council and government to consider. Instead of cash, the government should offer community members coupons or incentives to buy from local businesses.

Social capital is defined as the properties of social networks and individuals, how these relationships nurture the norms of reciprocity and trustworthiness (Putnam, 2000). The current thesis explores the idea of reciprocity. As noted in Chapter 8, states the businesses not only benefited from help provided by their networks but also wanted to return the favour. Many of them helped the community: some distributed free-of-cost goods immediately after the earthquakes. This shows that businesses not only

nurtured their networks and capitalised on them, but also reciprocated the favour; thus, they increased the bond/ties between them and their community.

This research examines social capital from the perspective of SMEs. Nelson (1988) and Hoang and Antoncic (2003) described it as the connections between different entities, whether businesses or individuals. Previous work has shown that social capital is critical for start-ups and entrepreneurs (Casson & Giusta, 2007). Social capital is considered a resource or a learning habitat (Bowey & Easton, 2007) which helps individuals or groups to explore opportunities and gain more resources. The owner of Retailer 05 after the first earthquake did not realise what kind of help the businesses were entitled to from the government because she did not know many people. However, after the second earthquake, she realised that there was a lot of support. The help was a through financial grant which as a significant portion in her business's recovery. This finding echoes many previous studies (see for example, Aldrich and Zimmer (1986); Birley (1985) and Shaw (2006)) who all argue that social capital extends the resource-base for different players. B2B03 drew on his social capital, especially his business consociates, for planning purposes. His friends were able to help him to plan and devise a recovery strategy. This shows how SMEs were able to draw on their networks for information and help. These findings are similar to those of social capital researchers like Steier and Greenwood (2000) and Jack and Anderson (2002).

Reciprocity refers to two-way support. According to Nahapiet and Ghoshal (1998) reciprocity is considered a relational dimension of social capital. It is defined as the bilateral, mutual and interconnected transfer of resources, services and support. Iturrioz, Aragón, and Narvaiza (2015)'s view is that reciprocity requires shared interests between individuals within a community. It leads to shared growth. This definition is particularly significant for this thesis: businesses in Canterbury felt obliged to help other members of the community. Those who perceived themselves as better off after the disaster tried to provide support for those in need. Business owners shared a common goal with the rest of the community; that is, keeping the community alive and running. The businesses interviewed for this research mainly operated in the CBD, therefore, they wanted to help the community and its people to feel safe and ultimately rebuild a sense of normality. The mutual goal of stabilising the community after the disaster motivated businesses to work hard for the betterment of the community.

Nahapiet and Ghoshal (1998) also discuss the structural dimension of social capital. This term refers to the way in which connections are built in community and individuals. This dimension of social capital relates to previous and current networks businesses have. While Nahapiet and Ghoshal (1998) discuss the structural dimension in relation to the innovation process, the current research defines it

in terms of obtaining a favourable outcome after the crisis. These connections are considered one part of social capital: that is, these are the types of networks which define social capital. Moreover, this type of connection is based on already existing connections. There was less chance of developing new connections (only a few businesses talked about relying on new connections). Nahapiet and Ghoshal (1998)'s third dimension suggests a cognitive aspect. It refers to shared or common beliefs in the community. The common purpose in the post-earthquake Canterbury was to restore/redevelop the community. The businesses were keen to help the community, and in return the community members helped keep the businesses afloat. The common goal was to restructure the community and provide a better quality of life for all.

This research has found that SMEs leveraged their networks and connections. In literature, social capital is developed and cultivated because the involved actors have motivation for the incentivising it later during periods of difficulty (Adler & Kwon, 2002). The data suggested that business owners did not realise the importance of social capital prior to the earthquakes. However, having been through the experience of the earthquakes and experiencing the value of their networks, business owners have become more aware of the importance of creating and maintaining strong networks. Nahapiet and Ghoshal (1998) suggest that social capital helps with the transference of knowledge. There were many examples in the data where business owners utilised their social capital to better plan for their recovery using information from their business consociates or through industry groups.

Cummings, Heeks, and Huysman (2006) and Adam and Urquhart (2009) identify some negative aspects of social capital; it may promote corruption in organisations, create power imbalances between firms and the government or lead to the formation of cartels. However, there was no evidence of these types of issues in my data. SMEs utilised their social capital in a positive way and, as a result, these networks have flourished, even after the recovery process had been finalised. In my view, the negative sides of social capital would be more visible in larger organisations rather than small businesses, where the reporting lines are simpler.

Social network is understood as something which influences the economic performance of entities. Social capital provides resources for better business outcomes (Hite, 2005). Lockett, Jack, and Larty (2010) argue that it is advantageous to have high social capital, as it increases business outcomes, knowledge, and innovation. However, like many other resources this also requires investment (Anderson et al., 2007) such as time to develop connections. The businesses in my study have developed and nurtured relationships during their business lives. Most of these connections (friends and industry connections) were formed prior to the earthquakes.

Networks are developed over time. They require common interests, gaining mutual understanding and building trust (Jack & Mouzas, 2007). This is especially true for the informal networks in this research. The informal connections, especially business consociates, are often made up of friends, who, despite having their own responsibilities and obligations, helped their fellow businessmen and friends to devise strategies to overcome the challenges presented by the earthquakes.

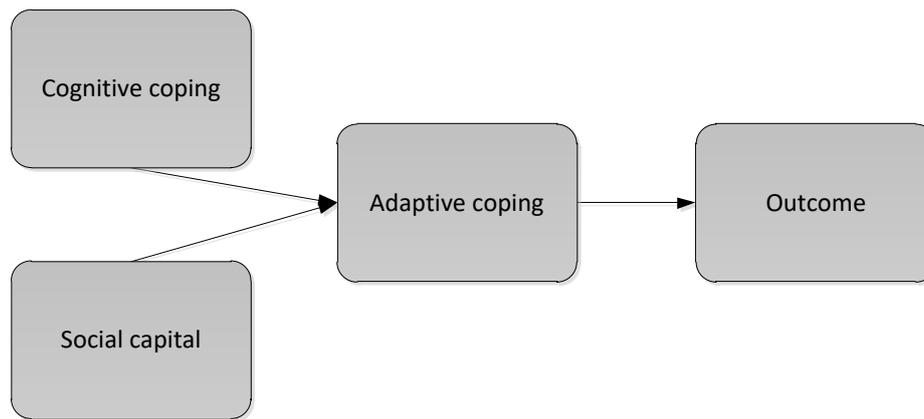
### **9.3. The theory of SME recovery**

The thesis has used within-case and cross-case analysis to understand the emerging themes. These emerging themes will help to develop the theory of SME recovery.

SMEs are particularly vulnerable when faced with a disaster (Wedawatta, Ingirige, & Amaratunga, 2010). This thesis has identified three major aspects for SMEs which they can learn and implement in their business operations. It suggests that SME recovery is not just about adapting coping mechanisms in case of an event, but also about building and increasing their coping capacity to deal with natural disasters so that their vulnerability is reduced. The purpose of this research is to enable SMEs to identify strategies which can be built into SME's daily routines so that they can cope with any unforeseen event. Fostering firms' capacities to combat threats to their existence and longevity enables them to grow and seek opportunities in the face of disasters (Seville et al., 2008; Sutcliffe & Vogus, 2003).

Cognitive coping, adaptive coping and social capital are controllable factors; that is, business owners can adapt, learn, define and design these aspects to achieve their desired outcomes. The main argument of this thesis is that cognitive coping provides business owners with a motive which drives the action. This analysis focused on the effects and function of cognitive coping, rather than attempting to explore the factors that ultimately influenced this coping. It identified the prominent features of the cognitive coping which were evident in the data, namely, motives and mindset. Some participants recounted traumatic experiences during the earthquakes which may have influenced how people responded to the situation, however, these were isolated accounts and not the emergent features which most of the business owners displayed.

Social capital which provides the external resources which enable the action orientation of the business owners. In short, while cognitive coping is personal, social capital refers to the external aspects which drive the adaptive coping. The combination of the three recovery themes resulted in the business outcomes and displayed how the businesses in this research recovered from the earthquakes (Figure 9-1).



**Figure 9-1: Recovery theory of SMEs**

Cognitive coping is the foundation for this theory. It is the crucial element which, if not present, will result in unsuccessful outcomes. In this theory, social capital, is also important because it compels the business owners to take a recovery trajectory. These two themes enable a third theme which is business owners' action orientation i.e. adaptive coping. This refers to the business owners' actions.

Large firms have internal capabilities and formal structures to in place to ensure they function properly in their business environment. These capabilities are the strategic assets which companies can utilise for their success, especially in times of disaster. SMEs work differently than larger firms. Business owners are often more flexible and have more control over the decision-making process. They can use trial and error until they achieved the desired outcome. Therefore, business owners' cognitive coping is the crucial aspect of this theory.

Social capital is a resource which is considered closely linked with the actions of an individual or a firm (Lin, 2002). The outcome in this research for the business owners depends on cognitive coping but also how significant was social capital for them. Social capital works in combination with the hidden, intangible aspects (the business owners' personal characteristics). Both aspects combine to create adaptive coping and actions such as learning, adjusting and risk management. The following section categorises the businesses into three distinct classifications.

### **9.3.1. Scores of all SMEs in the thesis**

This section combines the scores for all themes and frameworks for initial and secondary data collection and analysis. These are used to explain the variations among the themes. The cases in the initial data collection were also ranked against selected criteria (average scores from Table 6-5, Table 7-4, Table 8-2; high rating = average score  $\geq 3$ ; moderate rating = average score > between 2-3; low rating = average score > 1 and <2) to combine them for the purpose of classifying the businesses.

Cases	Outcome	Cognitive coping	Adaptive coping	Social capital significance
<b>Initial analysis</b>				
Construction 01	4	High	High	High
Retailer 01	3	High	High	High
Retailer 02	1	Low	Low	High
Edu 01	1	Low	High	High
B2B 03	3	High	High	High
B2B 01	4	High	High	High
B2B 02	4	High	High	High
Consultant 01	3	High	High	Moderate
Retailer 03	4	High	High	High
<b>Second phase of analysis</b>				
Consultant 02	4	High	High	Low
Construction 02	4	High	High	Low
Construction 03	4	High	High	Low
Retailer 04	1	Low	Low	High
Retailer 05	3	High	High	Moderate
Retailer 06	1	Low	Moderate	Moderate
Retailer 07	3	High	High	Moderate
Retailer 08	4	High	High	Moderate
Retailer 09	3	High	High	High
Retailer 10	4	High	High	Low
Retailer 11	4	High	High	Low
Retailer 12	4	High	High	Moderate
Retailer 13	3	Moderate	High	Moderate
Retailer 14	3	Moderate	Moderate	Low
Retailer 15	2	Low	Low	High
Retailer 16	3	High	High	High
Retailer 17	3	High	Moderate	Moderate
Retailer 18	1	Low	High	Moderate
Retailer 19	4	High	High	Moderate
Retailer 20	4	High	High	High
Retailer 21	4	High	High	High
B2B 04	4	High	High	Low
B2B 05	4	High	High	Low
Scale	Outcome 1= Declined as a result 2= No impact 3= Declined but regained 4= Flourished		Average scores from (tables) High Rating = Average Score $\geq$ 3 Moderate Rating = Average Score > between 2-3 Low Rating = Average Score > 1 and <2	

Table 9-1: Combined score – all SMEs

### 9.3.2. Three groups

Table 9-2 shows three distinct classifications: 1) self-sufficient SMEs, 2) socially-based SMEs and 3) surviving SMEs.

Groups	Cases	Cognitive coping	Adaptive coping	Social capital
<b>Socially-based SMEs</b>	Construction 01, Retailer 01, Retailer 03, Retailer 09, Retailer 16, Retailer 20, Retailer 21, B2B 01, B2B 02, B2B 03	High	High	High
<b>Self-sufficient SMEs</b>	Consultant 01, Consultant 02, Construction 02, Construction 03, Retailer 05, Retailer 07, Retailer 08, Retailer 10, Retailer 11, Retailer 12, Retailer 13, Retailer 14, Retailer 17, Retailer 19, B2B 04, B2B 05	Moderate-High	High	Low-Moderate
<b>Surviving SMEs</b>	Edu 01, Retailer 02, Retailer 04, Retailer 06, Retailer 15, Retailer 18	Low	Low-moderate	Moderate-High

Table 9-2: Three SMEs groups and their percentages in this thesis

### **9.3.2.1. Socially-based SMEs**

The characteristics of these firms, based on the scores are; high cognitive coping, high adaptive coping, high social capital and a positive outcome (4 – the business flourished after the earthquakes). These are the businesses which gathered every available resource in the post-disaster scenario. The business owners had the right mind-sets and motives, they utilised their connections, the support was highly significant to them, they adjusted to the post-disaster environment and their businesses flourished as a result.

### **9.3.2.2. Self-sufficient SMEs**

The characteristics of these firms are; high cognitive coping (high to moderate), high adaptive coping, low to moderate social capital, and a relatively good outcome (3 or 4 – they flourished or regained). This category includes most of the business in this thesis. These are the businesses who were self-reliant. Even though there was help available, they did not need it. They had developed networks and relied on these for their immediate recovery. However, the time which lapsed between the earthquakes and the data collection may have played a role in SMEs considering that their social capital was significant for them. Their adaptive coping was also high, which ultimately resulted in them flourishing after the earthquakes or declining initially but regaining their prior status.

### **9.3.2.3. Surviving SMEs**

The characteristics of these firms are; low cognitive coping, low to moderate adaptive coping, moderate to high social capital and a poor outcome (1 – they declined). These scores show that cognitive coping is the most crucial aspect in SME recovery. Business owners' motives and mind-sets

compelled them to strive for better outcomes. If owners lack cognitive coping skills, the other features will not provide a better outcome. Surviving SMEs businesses merely recovered to the extent that they were able to meet their expenses. Their financial position declined or remained the same.

**Significance of classification:** The businesses were classified into three distinct groups based on interview findings. These classifications are important because they reveal significant differences in terms of the businesses and demonstrate that each group has specific needs. Policymakers and the government need to consider these differences in their (post-disaster) responses and acknowledge that a 'one size fits all approach' may not be appropriate. For example, among these three groups, the surviving businesses were the most vulnerable. Owners were described as having low motive and mindset; in short, they were not willing to grow their businesses post-earthquake. The government and local authorities' responses to the post-earthquake environment was to provide a single solution for all small businesses. While this is understandable given the magnitude of the situation, some business owners felt their needs were not adequately addressed. Going forward, this thesis suggests that the government and local authorities need to consider the unique needs of each of these business groups.

#### **9.4. Theoretical contributions and application for businesses**

This research aimed at closing the gap of theory and the practice implementation for SMEs. This research has identified three simple aspects of recovery of SMEs in the form of a theory and how they work in combination in the recovery. There are broader implications for policymakers regarding appropriate forms of support for SMEs.

First, it is necessary to include the practice implications and contributions, because I believe this is the main priority of my cases and other small businesses. In general, large businesses are receptive to policies and suggestions for improving their adaptive capacities in the face of an uncertain event. However, majority of SMEs see them as unrelated or irrelevant for their businesses. This perception may stop them from adopting strategies or using them to their full extent to improve their adaptive coping (Ingirige et al., 2008). This thesis has attempted to engage effectively with SMEs, through semi-structured interviews, and suggest a theory which is easily implementable.

Although SMEs might not have the expansive resources, these three factors identified in this thesis do not require much financial resources to recover. In my view, due to their size, SMEs have an inherent ability to adjust quickly, make decision and implement them overnight. This is consistent with research by (Sullivan-Taylor & Branicki, 2011). They studied SMEs and argued that SMEs have an advantage over larger firms because they do not have bureaucratic structures (they have fewer layers of

reporting), meaning that they can make decisions quickly. Renton, Daellenbach, Davenport, and Richard (2015) argue that SMEs are perceived as vulnerable and that there is a common perception that they are the least likely to recover. In fact, their flexibility and responsive can be used to their advantage. As they deal with uncertainties on a daily basis, they have much more experience adjusting. The interviews support this argument: many of the businesses had already developed connections with industry groups and the wider community; they were able to utilise these connections in their recovery. Friends and neighbours were also able to provide resources which enabled these businesses to carry on. The perception that SMEs do not have resources is limited in its implementation. They may not have financial resources, but this research has shown they can generate or utilise non-financial resources for their recovery. These aspects do not require extra time, the business owners can focus on their daily processes while learning, adapting or accepting these aspects.

Small businesses are particularly vulnerable due to their size. This thesis has argued that this vulnerability is heightened in the case of an uncertain event. This thesis has emphasised the importance of local, small businesses in the face of a disaster. It has also tried to combine entrepreneur, psychology, social, recovery and disaster aspects into one theory. The theory is relevant for businesses facing a disaster, a major change or an uncertain situation.

## **9.5. Limitations and future research**

While this research has highlighted some important processes among the businesses studied, there are some limitations imposed by the time and resources. The research participants did not include businesses who ceased operations after the earthquakes. There are several reasons why I did not include these in my study. First and foremost, my original aim was to explore if business models had changed. That question was not relevant for failed/nontrading businesses. My aim was to compare pre and post business models, which only businesses who stayed would be able to provide. Investigating 'what changed and how' required me to study the businesses who managed to carry on after the earthquakes. However, as it became clear that there was no significant difference between the pre and post business models of the business cases. Secondly, once the focus moved to revised research question, the prospect of including the non-trading organisations in the sample brought some major practical challenges. It was impossible to track the non-trading organisation after 5-6 years of the event. This is an enduring problem for most research into business failure. In an ideal world, having those other businesses would strengthen the model but for practical reasons it was near-impossible to track them, and not practical to attempt this within the time constraints of a PhD. It leaves a question remained unanswered: How did the businesses who ceased operations react to

the situation? Did they not have the three aspects of theory? While this is a major limitation of this study, it provides an avenue for future research.

Another limitation was the timeframe of data collection of my research. The data collection was started in 2016, almost 5-6 years after the event. At first instance, it seems problematic and has its own limitations gathering data several years after the event. One limitation could be that the people might not be so enthusiastic talking about the event and secondly, would just want to rely on the memory while answering these questions. There is a possibility of data decay.. However, for this research, exploring their whole business recovery story was the aim. If I attempted to gather the data prior to this, the later stages of disaster-related changes may have still been in progress. Research has suggested that 75% of the organisations took approx. 5 years to recover Canterbury earthquakes (Hatton, 2016). Therefore, to see their whole resilience trajectory, it is justified that the data was collected several years after the event.

Additionally, the data was gathered through the business owners or managers. They are the decision makers of the businesses, who were there from the beginning of the event, right through to the point the data was collected, adjusting and coping. Additionally, a major disaster such an earthquake presents many non-standard challenges which would make those events more memorable and not easy to forget. In some cases the business owners were still emotional and sentimental talking about the event as if it was fresh in their minds. Therefore, it is less likely that the business owners would have missed crucial information or events.

Another possible limitation related to the timeframe of my data collection, is the possibility of retrospective sense making. As the time goes by, people create tidy stories in their minds about their experiences and make sense of the past events. These stories may not depict the factual realities. However, as a researcher, retrospective sensemaking was uncontrollable on my side. I needed to rely on their stories and told experiences. Tracking down their friends, neighbouring businesses or other related entities could be even more complex than tracing down the non-trading businesses. Therefore, the only option was to collect the data from the business owners and trust that they were telling the factual experiences. Another weakness in my study relates to my personal beliefs. I believe in looking for the positive in every situation. This attitude may have impacted on how I analysed the data. I tried to eliminate this bias by asking two qualitative researchers to read a few of my transcripts and they came up with same broad themes I did. Although their results gave me confidence.

Collecting the data six years after the actual events was enough time for the business owners to resettle in their business activities. Therefore, their whole recovery process was analysed. Second, due to the iterative and simultaneous process of data collection and analysis, it took me more than a year

to collect the whole data. It helped me to analyse the data in depth, but it increased my timeline for finalising my finding and analysis. This limitation may raise an issue relating to retrospective rationalization, both in terms of business owners in this study and myself. There is a possibility that many business owners might have forgotten to mention some crucial points because of the time lag between the event and the data collection. On the other side, the possibility that I could have missed some initial observations which could impact on the final theory. I could not control the responses of the business owners, but to reduce this limitation, I have used field notes, memo writing, coding process and asking my supervisors' guidance to rigorously follow the grounded theory methods. However, I felt obliged to mention these fears in my limitations.

I noticed that there were hints of education and experience in the different business cases that may have played a role. These were not very prevalent in my data due to the diverse cases. However, I feel that there is a potential to investigate this issue further, in a post-disaster context. Evidence based management (EBMgt) suggests that the owners utilises many clues from their past experiences and combine them with current aspects of the business to run it effectively (Briner, Denyer, & Rousseau, 2009). The question to figure out is to what extent small business owners can apply their different knowledge and convert them into actions.

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## Appendices

### Appendix A. Information sheet for participants

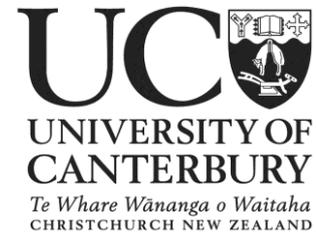


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### **Disaster Recovery of Small and Medium Enterprises (SMEs) – A case of Canterbury Earthquakes 2010-11**

#### **Information Sheet**

I am a doctoral student in the Department of Management, Marketing and Entrepreneurship. I am also associated with the Resilient Organisations research group. Resilient Organisations (ResOrgs) is a public-good research programme based in New Zealand. The group has been researching what makes organisations resilient to crises since 2004. Further information about the group can be found at [www.resorgs.org.nz](http://www.resorgs.org.nz).

This proposal aims at identifying those aspects of a business which help it recover in the face of adverse conditions. It particularly focuses on small and medium enterprises (SMEs). Particularly, this research attempts to understand;

- How do business models evolve under adverse conditions?
- How do SMEs change their business models?

Your involvement in this project entails participation in a semi-structured interview to be arranged at a time of your convenience. It also required your participation in ten minutes short survey. The interview and survey questions are related to different components of your business. Based on your experience, my research will try to understand the factors that worked or did not work in post disaster environment. The expected duration of interview will be about 60 minutes. The outcome of this research is identifying aspects of recovery of SMEs.

The interview will be recorded using an audio recording device. An interview transcript will be provided to you before the information is used for analysis. You will have the opportunity to make any changes to the interview data at that time. If no amendments are made, original transcripts will be used for further analysis.

There are no known risks involved in participating in this study.

You may receive a copy of the project results by contacting the researcher at the conclusion of the project.

Participation in this study is voluntary and you have the right to withdraw at any stage without penalty. If you withdraw, I will remove information provided by you provided this request is made prior to compilation of the project output.

The results of the project will be published, but you may be assured of the complete confidentiality of data gathered in this investigation: your identity will not be made public without your prior consent. To ensure anonymity and confidentiality, data will be placed in secure facilities and/or in encrypted electronic form. The data will be accessible only by the research team listed in the consent form. Raw data (such as consent forms, audio recording and transcripts) will be destroyed after 10 years. In addition to PhD thesis, the output of this project may also include conference papers and journal articles. A PhD thesis is a public document and will be available through the University of Canterbury Library.

The project is being carried out as a requirement of Doctor of Philosophy (PhD) by Rabia Ijaz under the supervision of Dr. Venkataraman Nilakant and Dr. John Vargo, who can be contacted at [ven.nilakant@canterbury.ac.nz](mailto:ven.nilakant@canterbury.ac.nz) and [john.vargo@canterbury.ac.nz](mailto:john.vargo@canterbury.ac.nz). They will be pleased to discuss any concerns you may have about participation in the project.

This project 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 study, please complete the consent form and return by email to [rabia.ijaz@pg.canterbury.ac.nz](mailto:rabia.ijaz@pg.canterbury.ac.nz).

Yours sincerely

Rabia Ijaz

## Appendix B. Consent form



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### **Disaster Recovery of Small and Medium Enterprises (SMEs) – A case of Canterbury Earthquakes 2010-11**

#### **Consent Form**

- 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 research team (listed below) and that any published or reported results will not identify the participants or the organisations they represent, without prior consent. I understand that the output of this research project is a public document and will be available through the UC Library.
- 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 that I am able to receive a report on the findings of the study by contacting the researcher at the conclusion of the project.
- I understand that I can contact the researcher or the supervisory team (contact details given below) for further information.

#### **Research Team**

Name	Position	Email	Phone
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Rabia Ijaz	PhD student	<a href="mailto:rabia.ijaz@pg.canterbury.ac.nz">rabia.ijaz@pg.canterbury.ac.nz</a>	+64 21 08340330
Dr. Venkataraman Nilakant	Senior Supervisor	<a href="mailto:ven.nilakant@canterbury.ac.nz">ven.nilakant@canterbury.ac.nz</a>	+64 3 364 2987 Ext. 8621
Dr. John Vargo	Co-supervisor	<a href="mailto:john.vargo@resorgs.org.nz">john.vargo@resorgs.org.nz</a>	+64 3 364 2987 Ext. 6627

- If I have any complaints, I can contact 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)).
- I would like a summary of the results of the project.
- By signing below, I agree to participate in this research project.

Name (Participant): .....

Signature (Participant): ..... Date .....

Please return this completed consent form by email to [rabia.ijaz@pg.canterbury.ac.nz](mailto:rabia.ijaz@pg.canterbury.ac.nz) or in printed form at the time of interview.

Regards  
 Rabia Ijaz

## Appendix C. Research protocol

### Research protocol

#### Questions

- Q 1.** Tell me about your business. When did it start?
- Q 2.** What do you do differently? What is the formula for success in your sector of business?
- Q 3.** How would you describe your business model?
- Q 4.** What is the core activity of your business, without which your business will not recover? What are any other activities your business is based on? Do you revise them under any circumstances? Why and how?
- Q 5.** Would you tell about your customers? Who are your customers? Did they change since the inception? Why and how?
- Q 6.** Have you ever thought to expand your business? Why and how did you do that?
- Q 7.** What are the benefits/products you offer to your customers? What are the needs of the customers you cater? Any modifications you have made? Why and how?
- Q 8.** How do you communicate with your customers? Is it different than what it used to be in start of your business? How and why did it change?
- Q 9.** How do you make your product available to your customers? Have you ever changed your ways? Why and how did you change?
- Q 10.** How will you describe your relationship to your customers? How do you make sure that your customers repurchase your product(s)? Have you ever modified your ways? How and why did you think of altering these?
- Q 11.** How do you attract new customers? Have your practises changed since the business started? Why and how did you change them?
- Q 12.** What are the core assets of your business? Such as people, finances, physical infrastructure? How do you maintain your assets? How would you prioritise them? Has the importance changed? How and why did it change?
- Q 13.** Have you developed any network of suppliers? Who do you think plays a major role in your business? How would you describe your relationship to your suppliers? Has this relationship changed? If so, why and how?
- Q 14.** How do you manage your costs? How do you define your emphasis on cost vs fulfilling the customer needs? Has your attitude towards cost changed? Why and how?
- Q 15.** How do you describe your source of income in this business? How do you charge your customers? Are there any other sources other than customers which generate cash? Have your practises changed? How?
- Q 16.** How do you describe your business environment? Has it changed since the earthquake? How?
- Q 17.** What do you do to adapt to the changes?
- Q 18.** Is there anything I have missed about your business?



## Appendix D. Mind-set coding table

Quotation (Persistence)	Initial codes	Types of codes
"We just <b>stood up</b> and <b>dusted ourselves</b> off and started again." (B2B 05)	"Stood up and dusted ourselves"	In Vivo
"you've got to deal with it and resolve it as best you can and not dwell on it. You take a lesson if a lesson needs to be learnt and <b>move on</b> ." (Retailer 19)	"Move on"	In Vivo
"And everyone here was <b>surviving</b> too. We thought why we should be the exception <b>we will try</b> and then see where things lead us." (Retailer 04)	Persistence	Holistic
"From the beginning I <b>never gave up</b> , just think how can make it going." (Retailer 07)	"never gave up"	Holistic, In Vivo
"I took the attitude I just had to <b>keep going forwards</b> even if it was just little steps. I <b>couldn't look back</b> ." (Retailer 19)	"could not look back"	In Vivo
"I <b>didn't think of quitting</b> . I just <b>carried on</b> ." (Retailer 04)	"carried on"	In Vivo
"We pretty much all knew from the start we <b>couldn't go back</b> as we were, we had to be <b>better</b> and so we <b>moved forward</b> ." (Retailer 19)	"moved forward"	Descriptive, Holistic, In Vivo
"Right from the start nobody, in terms of the people involved in the business, thought well that's it I'm out of here. There was <b>determination to start again</b> " (Retailer 19)	"start again"	In Vivo
"you either decide you're going to go ahead and do it or you're not going to. I like my business so I decided I would <b>go ahead</b> and do it." (Retailer 05)	Keep going forward	Holistic, Descriptive, Process
"At that point of time we were really strong I would say emotionally. The only aim is to get <b>everything back to normal</b> , see if we can get <b>everything tidied up</b> " (Retailer 08)	Business as usual	Holistic
" <b>Giving up is not an option</b> " (Retailer 12)	Never giving up	Holistic, process
"You just <b>pull up your bootstraps</b> and take each day as it comes and <b>do the best</b> you can every day." (Retailer 18)	Persistence	Holistic
"I <b>never give up</b> ." (Construction 03)	"I never give up"	In Vivo
"The confidence that we had in ourselves have made the things possible." (Retailer 15)	self-confidence	Process, holistic
"I'm a big one live each day to the fullest and if that happens, then I will deal with it." (Retailer 20)	"I will deal with it", determination	In Vivo
<b>Quotations (Optimistic thinking)</b>	<b>Initial Codes</b>	<b>Types of codes</b>
"I've always been optimistic" (Construction 03)	"I am very positive"	In Vivo
"I think not looking back but keeping looking forward. You can't change what is behind you, but you can change what's in front of you." (Retailer 21)	Hope	Holistic, Descriptive
"I didn't lose hope." (Retailer 04)	Staying positive	Holistic
'Like most things in life, when one door closes another one opens." (B2B 05)	good things to come, positive about the future	Holistic
"I hope it is going to be good because I picture a lot of good things in my mind" (Retailer 12)	"Goods rays of hope"	In Vivo
"Look at the bad things, good things come sometimes too." (B2B 04)	"good things come sometimes"	In Vivo

"I'm very positive about what is going to happen going forward." (Retailer 09)	Optimistic	Holistic
<b>Quotations (gratitude)</b>	<b>Initial codes</b>	<b>Types of codes</b>
"It was very difficult. It was very hard but the thing that gave me some hope that we are better off than the people that lost their house or shop and have no business at all."	Retailer 04	
"I was far better than others because we didn't need to apply for a grant. Only they [engineers] demolished shop. We didn't take anything from government or insurance. Our house was perfect in condition."	Retailer 04	
"We were one of the lucky ones that were able to get back into our building to get all our equipment out. A lot of businesses never had that luxury."	Retailer 06	
"Financially we were not well off. We had cut down on a few things, but apart from that no, because, as I say, we were okay out here as far as the earthquake. Like out in New Brighton and out east was terrible. But our house survived and there was no problem. A good suburb to live. We were lucky."	Retailer 06	
<b>Quotations (self-belief)</b>	<b>Initial codes</b>	<b>Types of codes</b>
"I think one is a sense that I am quite good at what I do." (Consultant 01)	"Good at what I do", Confident about own abilities, self-confidence	In Vivo, Holistic
"It was a tough time. But for me, it was really not that bad. We have seen like this back in India, it is a routine for us." (Retailer 11)	Experienced worse circumstances	Holistic
"We need to be strong in ourselves and believe that we can fight any disaster." (Retailer 15)	self-belief	Descriptive, Holistic
"Courage is a very important thing. Hard work should always pay off." (Retailer 15)	Courage	Descriptive
"Belief. Belief and make changes that I needed to make changes and the type of stock, I knew it would come right" (Retailer 20)	"it would come right"	In Vivo
"I didn't think of doing anything else. I knew I could make this. I started up with nothing. I knew I could build it up again" (Retailer 05)	"I knew I could build it up again"	In Vivo
"Even though I wasn't trained as a builder I was quite handy with fixing things and doing things up and painting" (Construction 02)	self-belief	Descriptive, Holistic
"I think the struggle of business actually makes you stronger. At times it's not nice, but it actually makes you stronger." (Retailer 21)	becoming stronger	Process, Holistic

## Appendix E. Immediate response coding table

Quotations	Codes	Secondary or pattern codes
“People were saying I suppose you're not making any medals at the moment. I said yes we are, <b>business as usual</b> once the power was back up and everything was okay. The building wasn't damaged. We had some cracks in the floor, but nothing to cause any problems. Once the mess caused by the earthquake, the broken glass and stuff, once that was cleaned up, we were <b>back up and running very quickly</b> ” (B2B 05)	Business as usual, Back up and running very quickly	Immediate adjusting
“We got a <b>temporary water supply</b> . And hooked that up... The water supply was an issue. So we just got a big tank. We filled it with water. And brought it in.” (B2B 04)	Got a temporary water supply	Immediate action
“We had a total of about, with stock losses and damage, the stock fell out of the shelf and there was one car got squashed. Just things like that it was about 200 k dollars. So what we did was we <b>decided very quickly</b> that we would not wait for the insurance company. So we all got sorted it ourselves first. And then made the claim later.” (B2B 04)	Decided very quickly	Immediate action
“The morning of the quake, at eight o'clock in the morning, I picked up my mobile phone, I rang our builder and I <b>rang our painter</b> and I said we're first on your list. They came to us before they came to anybody else. So it was a matter of project managing what needed to be done because there were no assessors or anything like that.” (Retailer 18)	Quickly calling for getting the services	Immediate response
“Then the earthquake happened and I had just taken delivery of a range from Denmark and at the time it was like wholesale it was like \$12,000 and then the next minute the building was shut and condemned, so I <b>took the stock out and went up to Auckland</b> with it and sold it.” (Retailer 16)	Took the stock to another city	Immediate actions
“We closed our shop for a few days to <b>clean up and claim the damages</b> for the insurance, the customers were waiting for our shop to be opened.” (Retailer 14)	Cleaning up the debris	Immediate actions
“Basically, we tidy-up so it was a chance for us to clean up. We were coming to do the things to clean up the things. We were cleaning the fridges and storage. Because our power was cut. If we would not have done it, they will be smelly and gross. We needed to <b>tidy up really fast</b> . “ (Retailer 13)	Tidying the place	Quick actions
“The next day we <b>started cleaning up</b> . I have got drinks at the other side of the shop. There was mess after the earthquake. The fridges and cabinets opened and there was spillage everywhere.” (Retailer 12)	Quick response	Immediate response
“We hired more staff. We were <b>very quick in taking this path</b> . We did not lose any staff.” (Retailer 11)	Bringing rapid changes	Immediate actions
“You just have to <b>recover quick and get back on your feet</b> . That's just what happened and we couldn't go back. We coped with all the negative impacts okay.” (Retailer 08)	Rapid actions	Immediate changes

## Appendix F. Gradual adjusting coding table

Quotations	Codes	Secondary or pattern codes
“If we <b>moved out</b> (due to the road works) here and the business went boom and we lost a couple of hundred thousand a year, we were still financially at the end of the year going to be pretty much in the same situation. So we decided that we would like to <b>move the business out here.</b> ” (B2B 05)	Relocation, move the business out here	Gradual decision
“We used to get slots cut into metal by an engineering place. The engineering place closed down and we said oh, well we need slots in metal and we started looking for somewhere else do it and one of my men said why don't we just buy a machine and we'll do it ourselves. We bought the machine and we do it ourselves and that's great. That was just brought about by the earthquake and we could have done it before the earthquake but we never thought about it.” (B2B 05)	Bought material machinery	Gradual progress
“A lot of our <b>customers, relocated. So we went with them.</b> So we had to do that work to make their new premises. So it called for the operation. Obviously a lot of the new construction work stopped. But there were a lot of remedial work to do.” (B2B 04)	Adapting to where the customers moved	Adjusting, Gradual actions
“I think also we took the view we had to <b>change and adapt and upgrade</b> and be a bit more modern.” (Retailer 19)	Change and adapt and upgrade	Adaptability, long term changes
“We always make some <b>changes in terms of the products</b> and change the product because the trend is changing. The style of products that people like are changing, so we have to meet the changes. There is always some changes to be made.” (retailer 17)	Changing with the trends	Gradual adjustment
“You've got some flexibility. If change happens you need to do something to <b>respond to the change.</b> After the earthquake and the shop is closed, less people coming to this area, so you just focus, put more effort online, that is the change.” (Retailer 17)	Respond to the change	Gradual changes
“I suppose, as I said before, I suppose we quite <b>improvise</b> I suppose. We didn't really have to adapt too much because we were already doing the same thing but just in a <b>different way</b> I suppose.” (Construction 03)	Improvise, doing things differently	Adjustability, ability to change
“We <b>changed the kitchen set-up.</b> We optimised the working. Because there were more people coming in our restaurant, we needed a smart setup. That is convenient for the chefs and they do not need to run in the whole kitchen to find ingredients. He can stand in one place and the ingredients and things accessible to him and the other staff is also optimising the utilisation of the kitchen. We work to minimise the time and reduced the wastage of time in running in the kitchen or bumping into each other while doing that.” (Retailer 11)	Adapted to the needs	Gradual changes
“Some of the ones in the mall, they haven't survived. I think they just didn't move. They just stayed with their thing and didn't evolve and <b>we just keep evolving.</b> ” (Retailer 10 )	Evolving the ways	Gradual adapting
“Really just for that point of time if that doesn't work for you, you just have to find something else to do. You can't sit there waiting and waiting and waiting. You just have to do something.” (Retailer 08)	Process changes	Gradual actions

<p>“Before, I was, but it was aimed in a certain area of town and it was aimed at the student market. So I was building as close to the university as I could and I was aiming at students. After the earthquake, I didn't have to aim for the student market because there was just all these workers coming in from all around the world and they needed somewhere to live” (Construction 02)</p>	<p>Changing the market</p>	<p>Gradual process of change</p>
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## Appendix G. Adaptation preparedness coding table

Quotations	Codes	Secondary or pattern codes
"I just <b>prepare to be flexible</b> . I think being flexible is important. Because things are changing. If you are not flexible, then you can't adapt to changes. If you can't go with changes. That could be a problem." (Retailer 17)	Being flexible	Prior adaptability
"We're supposed to have enough money in the bank to pay the wages from our cash flow. But if something affects our cash flow, there is \$50,000 there that we can use until the cash flow gets sorted." (B2B 05)	Being prepared	Prior ability to change
"We keep <b>plenty of money in reserve</b> to take care of bad times. Whether it's a downturn in business or a machine breaks down or something nasty happens, we are financially very stable and secure. I think what the earthquake showed was that lots of small businesses aren't." (B2B 05)	Money in reserve	Prepared for disruptions
"So I bought this business in 2008, it was very badly run down and not very well managed. There were no brochures, no website, no marketing and the fifth generation owner was independently wealthy. I immediately moved the business from the premises where it was when I brought it which was owned by the family, to smaller, more economic premises more suitable to the needs of the business." (B2B 05)	Prior ability to change, thinking strategically, cost saving strategy	Prior ability to change
"I repair cameras, all makes and models. I have been for 40 years. I worked for different agencies before we had gone out on our own and we have the Kitchen Aid service agency which is mixers and blenders, food processors. When the changeover from film cameras to digital cameras, there was quite a big gap before the digital cameras started breaking down. I'm used to doing all these old cameras here. I struggle to get through to working with digitals, but now I can do them quite well." (Retailer 06)	Keeping the market trends in mind to change	Prior business adaptability
"Well it was nothing to do with the earthquakes. As I said, we saw that cameras, there wasn't too many out there being sold because people were using their phones so we looked round for other things we could do and the opportunity of doing the Kitchen Aid. We approached the agency and they said they would like a service agent in the South Island, from Australia, so we said yes we would do it. It's been a big help. We've been doing that for 25 years, so that was before the earthquakes." (Retailer 06)	Adapting – before the earthquake	Prior business adaptability

## Appendix H. Overall learning coding table

Quotations	Initial Codes	Secondary or pattern codes
"[learnt that] you have to be very careful about it [life] today and thinking good things, do good things for today and not thinking too much of about fighting [about differences] and care about the people." (Retailer 07)	Lesson learnt about caring for people	Personal learning
"You just learnt how to cope with difficulties, to cope with pressures." (Retailer 17)	Learnt how to cope with difficulties	Strategic learning
"you've got to deal with it and resolve it as best you can and not dwell on it. You take a lesson if a lesson needs to be learnt and move on." (Retailer 19)	Overall attitude towards learning	Strategic learning
"If you did it again, you would probably take a completely different track. You probably would be a lot more upfront and questioning rather than accepting what they (insurance companies) were saying was what it should be and be probably fighting for yourself a lot more." (Retailer 19)	Learning about insurance handling	Operational learning
"I would probably say that new skills for a new computer system, I've had to do that, which I've had no choice, but it's good for the business." (Retailer 20)	New computer skills	Operational learning
"I think the quake issue taught me that it's okay to talk to other people about your business regardless if it is good or bad because nine times out of ten they've had the same problems and they can help you get through them." (Retailer 21)	Learning the importance of networking	People learning
"... because a couple of the suppliers that we used to use for engineering supplies, they closed and didn't reopen and so we went and bought a machine and did it ourselves. So there is a couple of processes that we do here that we didn't used to do." (B2B 05)	Leaning to make the part with new machinery	Operational learning
"You get to appreciate that people's [referring to migrant workers flew from overseas] beliefs and different cultures are very dear to them and very difficult to change behaviour, very difficult." (B2B 04)	Learning to deal with different cultures	People learning
"I think people, there is a bit more togetherness I suppose and people [in the community] I think are problem solving a bit more now than what they were in the past." (Construction 03)	General learning by the community	Community learning

## Appendix I. Social learning coding table

Quotations	Initial codes	Pattern coding
<p>“So I think it <b>taught us personally</b> about the fact being that there was more to life than work as well. There was a point where it was work, work, work we wouldn't have too many holidays. We've never been luxurious with our holidays. But it taught us that we need to also have a <b>work/life balance</b>.” (Retailer 21)</p>	<p>“taught us personally”, “work/life balance”</p>	<p>Personal learning</p>
<p>I suppose [learnt to] <b>look after yourself</b> first because I didn't and I was trying to look after everyone else. I think for me, because I ended up going through depression and anxiety and I think that was all from the earthquake. Just the coping. I suppose people not knowing.” (Retailer 16)</p>	<p>“look after yourself”,</p>	<p>Personal learning</p>
<p>“So through all the earthquakes I feel I am more brave and more understanding and I more realised life is important. Before you are very busy to do the business... But after the earthquake I feel I am more strong. First there is life only give to you once. <b>If you not care, it's all gone</b>.” (Retailer 07)</p>	<p>Overall personal learning</p>	<p>Personal learning</p>
<p>“I wish I had known. But I didn't know about it. I didn't know <b>the impact of networking</b>. There are groups that you go and have a coffee group [to discuss about business].” (Retailer 20)</p>	<p>Learning the importance of networking</p>	<p>Social learning</p>
<p>“Everybody was also dealing with things at home that a lot of place, a lot of our staff were somehow affected from the earthquake. Their homes, somewhere months or even getting into every year being relocated. And re-relocated. So that caused quite a bit of stress. I became a <b>counsellor as well</b>.” (B2B 04)</p>	<p>Learning to deal with emotional aspects of the employees</p>	<p>People learning</p>

## Appendix J. Strategic learning coding table

Quotations	Initial coding	Secondary coding
<p>“He’s [a person owns a web page about fashion products] ranked about fourth on Google whereas when I wasn’t ranked I was way down there and that’s what you need when you’re online. If you type in fashion or women’s or whatever, you need to come up on the page or it’s a waste of time.” (Retailer 16)</p>	Technology race	Broadly thinking changed
<p>“It’s certainly an experience I don’t know if you would want to go through it again, but certainly it was a <b>learning experience</b> with all those different elements involved.” (Retailer 19)</p>	“Learning experience”	Learning overall
<p>“I think it’s a challenge but you can learn something from that.” (Retailer 17)</p>	Overall learning	Broader learning
<p>“It’s [learning] that action is the most important thing. Rather than sitting thinking, thinking and just planning, you have to move and get things started. If you don’t start you never get things done. Take a look back, sometimes you can’t even believe how much you have achieved, but it is achievable as long as you start with things and just tick off on where you go.” (Retailer 08)</p>	General perception about learning	Overall learning approach
<p>“[Learnt to be] I guess <b>be ready</b>. We were all ready. We had plans in place, but other people weren’t.” (Retailer 09)</p>	“Be ready”	Overall learning approach

## Appendix K. Operational learning coding table

Quotations	Initial coding	Secondary coding
"You've got to think about things. You've got to make sure that all your exits are always clear and that and you can run out the back door." (Retailer 05)	Health & safety consideration	Operational consideration
"You've got to think about your customers because you never know what's going to happen. I can keep my aisles nice and wide so that if I've got a couple of customers with prams or pushchairs or walker trainers, or whatever and I have a guide dog that comes in and you've got to think about him." (Retailer 05)	Layout of aisles, keeping clear	Operational and customer consideration
"We used to get slots cut into metal by an engineering place. The engineering place closed down and we said oh, well we need slots in metal and we started looking for somewhere else do it and one of my men said why don't we just buy a machine and we'll do it ourselves." (B2B 05)	Need of a part, bought a machine	Process related decision
"We are still learning. We get it right sometimes and then we get it wrong sometimes. We buy wrong sometimes. We buy stuff that doesn't sell and we get stuck with it and we lose money on it. (Retailer 10)	Stock decisions	Process related
"The shelves which had heavier stuff on the top fall down and damaged the floor. So now in our design we make sure that everything which is lighter is on top of heavier things. So that no one get hurts." (Retailer 13)	Health & safety /risk avoidance	Operational consideration
"Dealing with landlord was a huge learning for me. If I could have talked to them first, without involving the lawyer, that way I could avoid legal argument" (Retailer 13)	Legalities	Operational issues
"I don't think if I was ever in a situation like that again that I would say yes or no to anything without first talking to a lawyer and saying this is what's happening, what do I do." (Retailer 18)	Legal consideration	Operational issues
"I think probably we've gone back to the 101 of business, like making sure your processes are 100% in line. I think 23 years ago we probably never had the processes that we've got in place now." (Retailer 21)	Process flow consideration	Operational consideration

## Appendix L. Risk management coding table

Quotations	Initial coding	Secondary coding
<p>“It's all part of the risk management. You've got to think ahead and think what could happen, how is it going to affect me and what do I need to cover off if it does happen.” (Retailer 09)</p>	<p>Prior to earthquake – thinking about the challenges</p>	<p>Risk management</p>
<p>“You've got to weigh that likelihood. It is a risk management thing. What is the likelihood of an event versus the consequences and what do you have to have in place. You don't have to have in place business processes for perhaps a volcanic eruption, although it may happen for a minute level. But flooding or earthquake obviously you do. Just making sure people are aware of that.” (Retailer 09)</p>	<p>Calculating risks “Likelihood of event”, “consequences”</p>	<p>Risk management</p>
<p>“I had to be conservative and not be greedy. After the earthquake there were opportunities where I could have gone but and probably brought 10 properties to bowl and build but I think if I had done that I probably would have gone broke because I wouldn't have found the staff. I was holding too much capital, too much risk.” (Construction 02)</p>	<p>Calculating risks - Risk aversive approach</p>	<p>Risk management</p>

## Appendix M. Networks coding table

Quotations	Initial Codes	Secondary codes
“After that we just moved our shop here. We talked to our landlord so is the landlord allowed us to continue our business here temporarily. She said that I can start my business here. So with the help of their consent, I started my business again. We set up our system in the garage.” (Retailer 04)	Help of the landlord	Personal connections
“I was worried that my shop is damaged and I was disheartened. I also thought what will I do? But eventually, my business started to work again everyone supported me.” (Retailer 04)	Support from others	Friends and family support
“My family supported me a lot my husband and my son they said that don't worry everything will be fine. You don't need to take any pressure my husband actually gave me the idea to start a business from garage. The friends of my husband is they also suggested that you can start working from the garage. So they all came in help us I started to do business in one of the rooms first. We first talked to landlord in first week and then we started in the garage. We talked to landlord because without the consent we couldn't do anything. So then other landlord supported us very well. So many people started working from their home. So did we I like almost last 6 years.” (Retailer 04)	Family support	Family support
“I suppose [employer company] did help me because when I shifted the stock I didn't have a building to put it in so they stored it in their storeroom for me. So I suppose [the company] did help me there.” (Retailer 05)	Other firms supported	Business connections helped
“On the day we got into our old workshop we had five of our friends who helped us out.” (Retailer 06)	Help from friends	Friends supported
“It was just like a one-off payment at that point of time for you sort of lost your job permanently.” (Retailer 08)	Government subsidiary	Government supported
“I just stopped buying. I just really cut back. That big order that I got in, that \$12,000, he let me pay that off as I sort of got going and he put more stock into my shop on sale or return. Actually, he helped me... Just to help us because we had to reopen and we had not stock to put in there. He said look, I will send you down some stuff, if you sell it you sell it, if you don't you don't, just pay me for what you sell. So he was really good.” (Retailer 16)	Supplier's support	Support from supplier

## Appendix N. Informal networks coding table

Quotations	Initial Codes	Secondary codes
"So that Christmas holiday when the business closed for three weeks anyway my wife, unknown to me, she started doing some analysis in the office over there looking through four years' worth of sales, four years' worth of invoices, looking at the whole business and the history of it." (B2B 05)	wife of the owner helped him	Family supported in planning
"Everybody seemed to be <b>more cooperative</b> more caring" (B2B 04)	Neighbour and community's care	Cooperative community
"My husband, he helps me out regarding computer stuff" (Retailer 20)	Family support	Family member's help
"All I would say is be around, for anyone in this situation, <b>be around supportive people</b> . Take on board what people say. Use it how you want to use it. If you've got a partner or family, I've been married nearly 30 years, very supportive husband. We've always bounced things, ideas off. Maybe we don't always agree, but we bounce ideas off." (Retailer 20)	Supportive networks, friends and neighbours	Supportive Friends and networks, Support of family member
"But the <b>community</b> here, like we were given 48 hours to get out of the shop... Within half an hour, three quarters of an hour of them being aware of our situation, we only had until I think five thirty to get out of the building, they turned up about quarter to five with two big trucks. They stopped all traffic on High Street. There was about 10, 15 guys just came in and said right, what can we do? They just ripped carpet up, took lighting down. They were awesome and just loaded everything into these trucks. This is the <b>community spirit</b> . And just took them away from us to another location while we sorted things out." (Retailer 20)	The "community spirit"	"Community spirit"
"We had a lot of <b>support from the local people</b> helping us what we were involved in securing the building, fixing up the 1970s bit because we had to build a big wall to block off all the rest of the damaged buildings and had to get it up to Council code to say that it was safe for the public to come in." (Retailer 19)	"support from the local people"	Community help
"By the time we lived in [area name skipped for anonymity] in a friend's house that was away overseas from the 1st April 2011 to the 1st September 2011. Friends, <b>our friends</b> in [area name skipped for anonymity] put us up from September to Christmas. We lived in their house" (Retailer 18)	Help from friends	Friends' support
"My wife helped me from time-to-time." (Retailer 17)	Family support	Family member's support
"We got some people asking us see whether we are okay. I think they are concerned about us but in terms of the health, physical health. <b>More support you know and encourage</b> , that's all fine." (Retailer 17)	Community support	Community help
"We <b>stayed at our nephews place for two days</b> . It was so kind of him to let stay at his place. His house was in better condition. Some places were damaged more than others." (Retailer 15)	Family support	Family member's support
"Everyone was there for the <b>moral support</b> . Everyone told that what I have <b>contributed to the community</b> is worth appreciating." (Retailer 14)	emotional support, "contributed to the community"	Community help
<b>Family member helped me</b> . My staff were helpful. We got only four staff then, or five. (Retailer 13)	Family support	Family member's support

<p>"A lot. They (neighbourhood) like us being here and they like the fact that we've been here for so long. Obviously not everyone shops with us. It's not for everyone. But a lot of people try and shop with us, or make an effort to shop with us where they can mindful that if they don't we won't be here." (Retailer 10)</p>	<p>Neighbourhood, emotional support</p>	<p>Community help</p>
<p>"We <b>do a lot in the community</b>. We do fundraisers and fashion shows. Every year we do a fundraiser to give back to the community. We've done things for the earthquake. We're quite an integral part of [this community]." (Retailer 10)</p>	<p>Community neighbours</p>	<p>Community help</p>
<p>"We did get some <b>help from my family overseas</b> with some money to help us to re-establish a new business." (Retailer 08)</p>	<p>Family support</p>	<p>Family member's support</p>
<p>"<b>Family and friends helped</b> us shifting some of the equipment when we were allowed to get inside to recover stuff. That's for one." (Retailer 08)</p>	<p>"Friends and family helped"</p>	<p>Friends and family support</p>
<p>"Lucky I've got my daughter-in-law's father, he's very kind to help me organise the moving company, help me buy the container because the insurance company only can pay for a year. One year, you can use the storage, but after one year what are you going to do." (Retailer 07)</p>	<p>Family support</p>	<p>Family member's support</p>
<p>"When all the stuff into the container, my daughter-in-law's father Paul he just gave me a big cuddle. You can go home and sleep now." (Retailer 07)</p>	<p>Family help</p>	<p>Family member's support</p>

## Appendix O. Formal networks coding table

Quotations	Initial Codes	Secondary codes
“There was some touching things. We had an engraving company in Wellington getting in touch with us and say if you're in any trouble down there, if you've got machinery that's broken or staff that have left and you are in trouble with being able to make things or deliver things, we will do it for you. We will help you which I found very touching.” (B2B 05)	An unknown company calling for providing the help	A new supplier called for support
“I mean the people we knew through work, everybody is concerned about how everybody else is doing.” (B2B 04)	Business connections, emotional support	Business connections for emotional support
“So the govt. paid a certain amount of money to the businesses to keep them going over that period. So that then, in the end the money paid the wages basically for about half the wages for the staff for a period. They enabled, that mean because of our solid cash flow position at start and bringing paying” (B2B 04)	Government helping the businesses	Government support
“Our suppliers were pretty good. Some of them absolutely wonderful. We had one particular, this guy who came down from Auckland just to see, they would let us float credit pretty major on one of them. They wanted to see us get through.” (Retailer 21)	Suppliers helping	Suppliers supported
“We didn't rely on the [business] network as much as what we do now. I suppose it also strengthened where we sat.” (Retailer 21)	Relying on networks	Business connection helped
“I know for me for a woman being in business can be quite lonely, belong to a networking group. I belong to a Networking Group. I still attend the meetings. Being around other businesswomen, because you can learn a lot from. Whether you've got a businesswoman who works from home to a businesswoman who has got 14, 15 staff, you can learn a lot from them.” (Retailer 20)	Networking group	Business connections supported
“Then the Council came on board and built self-contained units. They were just a small compact, no water, no toilets, but it allowed us to get up and going again and just slowly build up again. So we were in the container for three and a half years and I owned it in that time. I owned it for the last probably two years of it being in the container.”	Council's help	Council's help
“if the Council hadn't done that we would have closed doors because there was nowhere to go. There were no buildings that we could go into because they either had to be pulled down or their compliance was so low that you couldn't go in them anyway and you wouldn't allow your staff or yourself or your customers to be in the store.” (Retailer 20)	Council's help	Council's help
“When the earthquake happened, our building we were given 48 hours to move out of the building. We had another business here in [area name skipped for anonymity] that offered us space upstairs for a period of probably about four months which was lovely of them to do that. They offered it to us. I think at the time there was no cost. There was no charge for us to do that.” (Retailer 20)	Businesses helped	Business connections in the community supported
“There was a lot of support from suppliers. A lot of them were prepared to give us extended terms and things like that, which was good. They were pretty supportive. They knew what everybody was going through.” (Retailer 19)	Supplier's support	Supplier's support

<p>“They paid out in the end and then the government subsidised the wages I think for the first, I don't know what it was, a month or something.” (Retailer 16)</p>	<p>Government’s help</p>	<p>Government’s help</p>
<p>“The government is very good here. They supported us after the earthquake. Those who were unemployed by the earthquake and the business who were damaged, the government helped us with some amount of money.” (Retailer 15)</p>	<p>Government’s help</p>	<p>Government’s help</p>
<p>“After the earthquake, majorly it was government support. Very important for business like us.” (Retailer 13)</p>	<p>“Government support.”</p>	<p>“Government support.”</p>
<p>“The staff was maintained, we did not downsize. They were getting the govt. money. Funds, they could apply for funds and loss by themselves. So, they asked for help.” (Retailer 13)</p>	<p>Government funds</p>	<p>Government support</p>
<p>“Definitely helpful. It certainly wasn't a way of making money or anything like that, but it certainly helped to buffer for downturn in income I guess.” (Retailer 09)</p>	<p>Government help</p>	<p>Government support</p>
<p>“Because we lost the business we are lucky, the government they give us a very good support. So my husband and I we got six weeks' support. How much a week? All my staff got their support. My staff got support around 12 weeks and my husband and I we got six weeks so we got back to nearly okay. I have some business to do so we stopped the money from the government.” (Retailer 07)</p>	<p>Government help</p>	<p>Government support</p>
<p>“I think there is still quite good for the New Zealand government. Very slow, but did quite well. We trusted them and believed everything getting better and better.” (Retailer 07)</p>	<p>Government help</p>	<p>Government support</p>
<p>“I have a business partner, but there is two separate firms. So there is [company A] and [company B]. But he uses the same workshop as here. We looked at premises in and around the suburbs, but they were all very expensive so I said to my [business partner], I said look, we've got this here, we may as well make use of it and that's how it happened.” (Retailer 06)</p>	<p>Business partner</p>	<p>Business connections supported</p>