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# Preliminary Results from the Organisational Resilience & Recovery Study December 2010

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## **Introduction**

The Resilient Organisations Research Programme and the University of Canterbury are undertaking a longitudinal study to examine the resilience and recovery of organisations within the Canterbury region following the 4 September Canterbury earthquake.

The preliminary data suggest the physical, economic and social effects of the earthquake were varied across industry sectors within Canterbury. These preliminary results catalogue organisations' perceptions of the:

- disruptions to their ability to do business
- challenges faced in the aftermath of the earthquake
- factors that have helped mitigate the effects of the earthquake
- revenue changes and projections for the duration of this change
- financing options for recovery

## **Overview of Organisations**

The total number of organisations sampled was 870. Sampling commenced on November 15<sup>th</sup>; as of 14 December 2010, 279 organisations had returned the survey. This represents a response rate of 32%. The deployment of surveys was staggered, and at the time of writing this document, the return of survey booklets was ongoing.

The industry sectors sampled for this study include:

- Agriculture (Farm)
- Building Supplies
- Fast Moving Consumer Goods (FMCG)
- Hospitality
- Information and Communication Technology (ICT)
- Lifelines
- Transport (Trucking)

In order to capture the network and spatial relationships among organisations impacted by the earthquake, Christchurch and Kaiapoi Central Business Districts (CBDs), as well as rural non-farm organisations within the Selwyn district were also sampled. The number of responses per sample category is depicted in Figure 1.

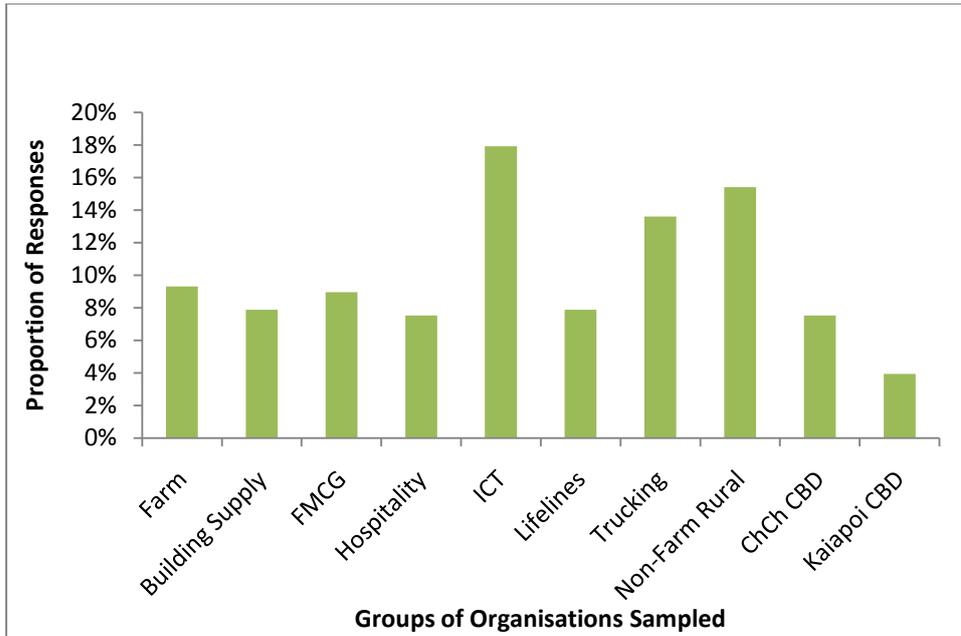


Figure 1: Breakdown of responses per sample category

Respondents to the survey represent a range of organisation types and sizes. In Figure 2, the number of respondent organisations is broken down by organisation size (comprised of all full-time, part-time, and temporary employees). Approximately 85% of the organisations represented are small organisations (with 50 or fewer employees), including 125 of organisations that employ less than 5 people.

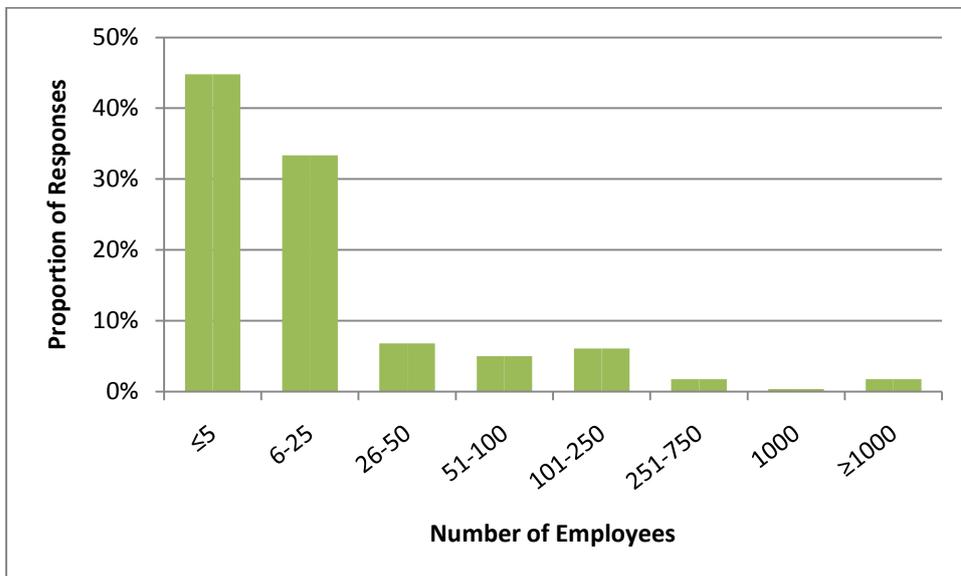


Figure 2: Number of employees in respondent organisations

Approximately 40% of respondents owned the property from which they operated at the time of the earthquake. Approximately 60% rented the property from which they operated their organisation.

## Impacts

Of the surveyed respondents, approximately 77% said they were affected by the earthquake, while 23 % responded that they were not affected at all.

On a scale ranging from “not at all” to “very”, the five most frequently cited reasons given as “very” disruptive to an organisation’s ability to do business were identified as (in descending order):

- damage to or closure of nearby organisations
- damage to or closure of adjacent organisations or buildings
- unable to access site
- electricity supply disruption
- water supply disruption

As shown in Table 1, a large proportion of sampled organisations within the Christchurch and Kaiapoi CBDs (compared to non-CBD organisations) identified damage to nearby and adjacent buildings as “very” disruptive on their ability to do business.

**Table 1: Answer to “How disruptive were damage to or closure of nearby organisations”**

	<b>Not at All</b>	<b>Not Very</b>	<b>Moderately</b>	<b>Very</b>
<b>Christchurch CBD</b>	22%	0%	26%	52%
<b>Kaiapoi CBD</b>	11%	0%	0%	89%
<b>Non-CBD</b>	65%	13%	12%	9%

Respondents were asked to provide information regarding the inspection and tagging of the organisation’s building(s) after the earthquake. Of those who responded, 65% of organisations had one or more of their buildings “green tagged” (deemed safe to enter), 15% of had one or more of their buildings “yellow tagged” (restricted use), and 6% of respondents indicated having one or more of their buildings “red tagged” (unsafe to enter). Twenty-nine percent of organisations reported having no buildings inspected.

As a result of the earthquake, some organisations closed for a period of time. The results for the organisations that did close are shown in Figure 3.

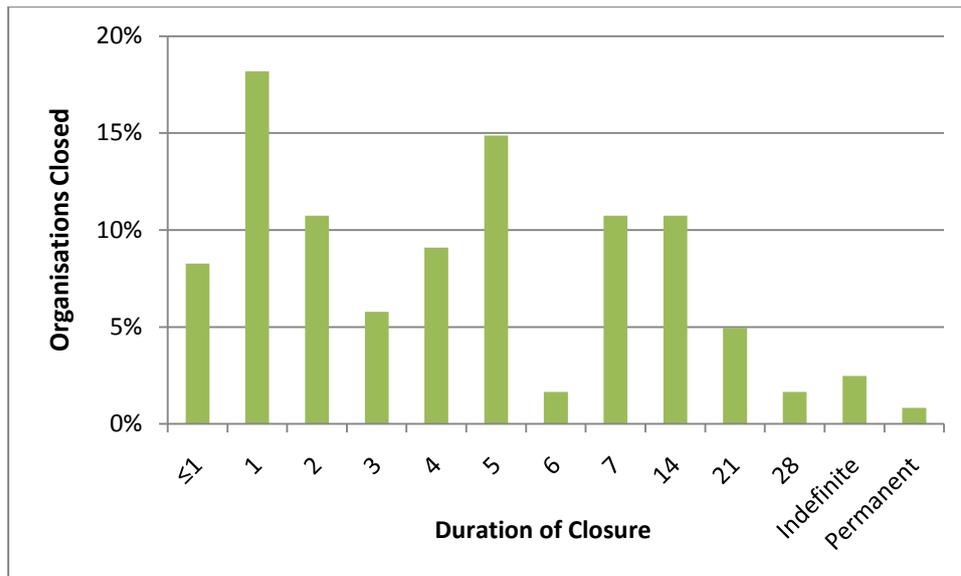


Figure 3: Of organisations that did close, the duration that they were closed for.

Given the choice of “yes” or “no”, the reasons most cited as contributing to the temporary closure of an organisation (in descending order) include:

- building waiting to be structurally assessed
- needed to clear up damage to interior
- stock loss or damage
- damage to immediate locality (e.g. neighbouring buildings or pavements prevented access)
- could not deliver supplies/services to customers

Of those organisations that reported some effect from the earthquake, approximately 6% have had to relocate.

Respondents were also asked to estimate the percentage change to their revenue following the earthquake and the amount of time this change was expected to last. Figure 4 shows the number of organisations that experienced a change in their revenue, while Figure 5 and Figure 6 illustrate the estimated percentage change to revenue and the duration of this change.

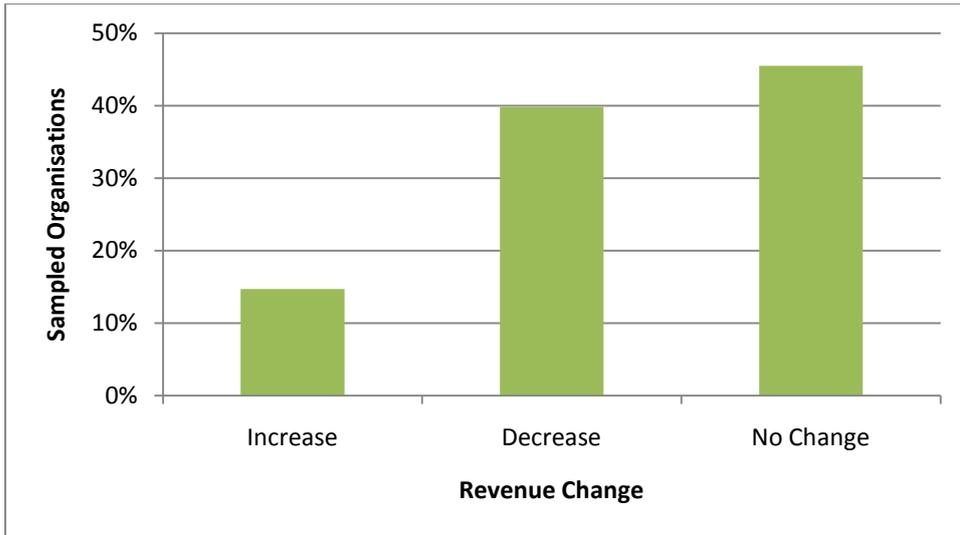


Figure 4: Number of organisations with revenue change

Of the organisations that indicated a change in revenue following the 4 September earthquake, some recorded an increase in revenue while others had a decrease. Organisations were asked to estimate the percent revenue change; this is shown in Figure 5.

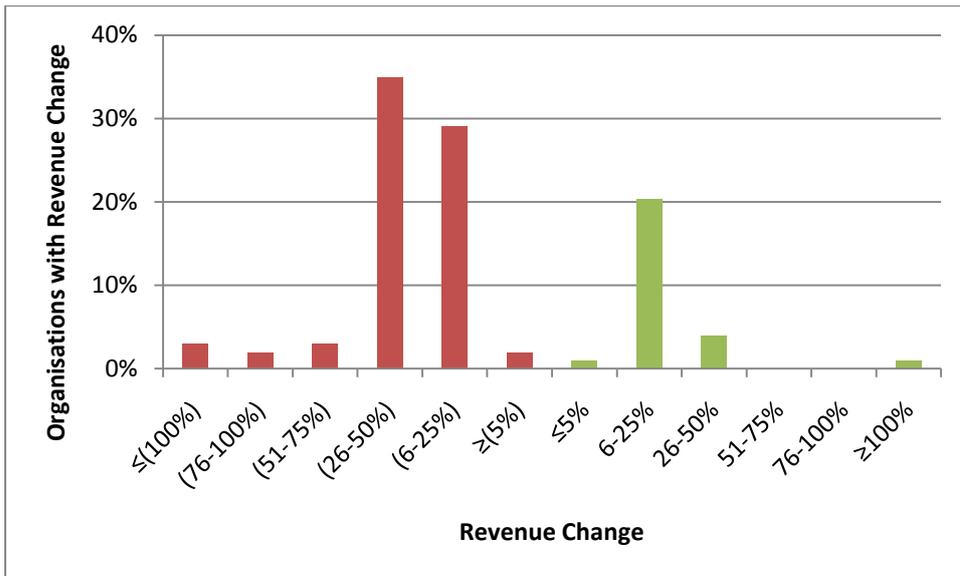


Figure 5: Estimated revenue change of organisations

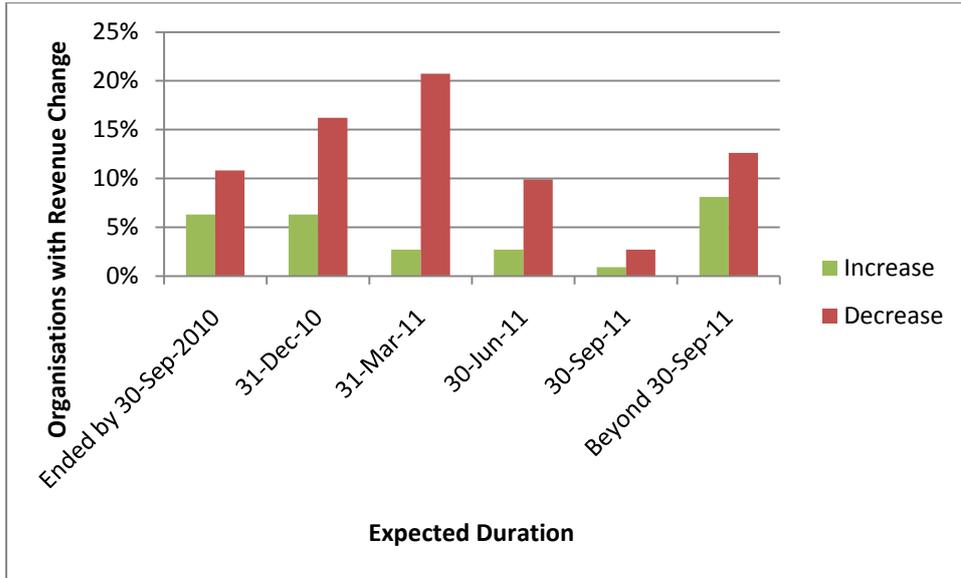


Figure 6: Organisational expectations for duration of revenue change

Organisations were asked to list the types of insurance coverage that they have. Of the organisations affected:

- 75% had public liability insurance
- 72% had organisation assets and equipment insurance
- 64% had motor vehicle insurance
- 62% had property and buildings insurance
- 53% had cash flow, income protection, or disruption insurance
- 53% had commodities and goods insurance
- 17% had another type of insurance not listed

Of those surveyed, the majority indicated feeling “neutral” to “very satisfied” in relation to how well their insurance package had met their expectations. This is shown in Figure 7.

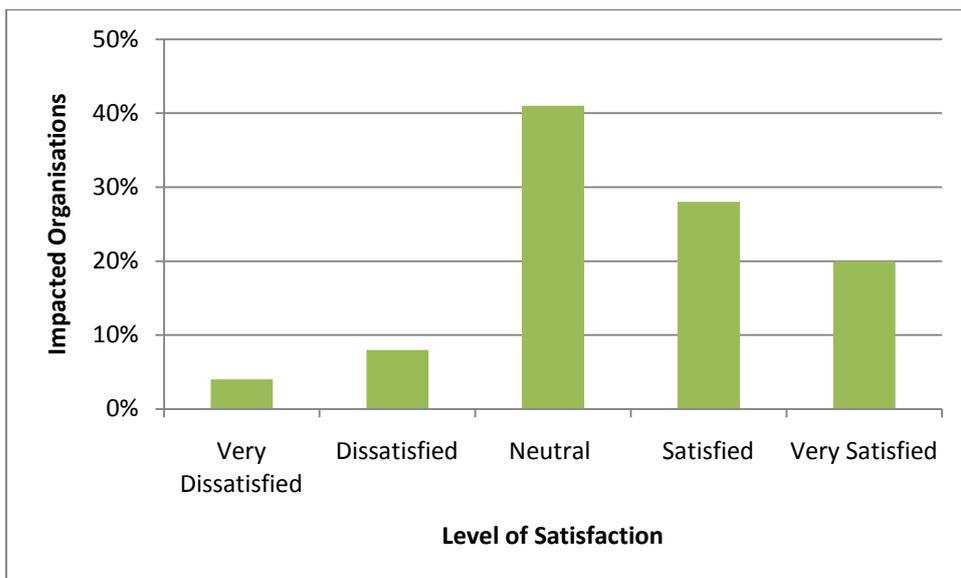


Figure 7: Degree of satisfaction with insurance package

At the time of the survey, 93% of respondents had not made any staff redundant, whereas 25% of respondents took on more staff in the aftermath of the earthquake.

Organisations are financing their recovery in various ways. Respondents indicated one or more of the options in Table 2 as a means of financing their recovery.

**Table 2: Types of financing for business recovery**

Types of Financing	Percentage of Respondents
<b>Organisation cash flow</b>	<b>59 %</b>
<b>Savings</b>	<b>20 %</b>
<b>Money borrowed from family or friends</b>	<b>6 %</b>
<b>Bank loan</b>	<b>12 %</b>
<b>Credit cards</b>	<b>5 %</b>
<b>Insurance Claim</b>	<b>34 %</b>
<b>Earthquake wage subsidy</b>	<b>13 %</b>
<b>Other</b>	<b>12 %</b>

The most cited factors that helped mitigate (or lessen) the impact of the earthquake to organisations include (in descending order):

- well designed and well built buildings
- relationship with staff
- available cash or credit
- water, sewage, electricity, communications were restored quickly or not interrupted
- relationship with suppliers

In an open ended question, respondents were asked to identify the “biggest challenge for running your organisation” so far in the aftermath of the earthquake. The organisation’s comments were then collated into general categories, shown in Table 3.

**Table 3: Categorised comments of organisation’s biggest challenges**

Biggest Challenge	Impacted Organisations
<b>Employees and Wellbeing</b>	<b>26%</b>
<b>Customers</b>	<b>19%</b>
<b>Cash flow</b>	<b>11%</b>
<b>Access, Closure, Transport, Relocation</b>	<b>8%</b>
<b>Physical Damages</b>	<b>7%</b>
<b>Supply Issues</b>	<b>7%</b>
<b>Inability to Cope with Demand</b>	<b>7%</b>
<b>Other</b>	<b>4%</b>
<b>Lifelines</b>	<b>3%</b>
<b>Survey Fatigue</b>	<b>1%</b>
<b>*9% of organisations cited no challenges after the earthquake</b>	

Our survey also captured information about organisations' resilience characteristics and we will be analysing these in more depth next year to monitor the relationship between organisational resilience and recovery.

## **Conclusions**

As of December 2010, responses for this first survey are still being received. The results in this preliminary report provide a general overview of the responses received up to this point. More in-depth analysis will be done and results made available when data collection is complete.

The results herein show that many businesses have been affected by the 4 September earthquake. As seen, not all of the impacts have been negative. While some organisations are thriving, others continue to struggle. The ongoing research will uncover more of the "why", "how" and "where" around these results.

The results presented here represent findings from organisations across the affected region, and we anticipate further analysis of the data will identify particular localities and sectors that are most heavily impacted.

These preliminary results illustrate that physical damage is not, in many cases, the most disruptive effect of the 4 September earthquake. The level to which an organisation is affected by an event of this magnitude is not only related to the characteristics of the individual organisation. Influences outside of an organisation's direct control, such as damage to nearby organisations and electricity supply disruption are contributing factors.

Intangible and indirect effects may have an equal, if not greater, impact to an organisation's ability to operate than the direct damage to an organisation's building.

This study is ongoing and will investigate the factors influencing an organisation's ability to recover in order to provide appropriate and effective pre- and post-disaster business support.

## **Future Work**

These research data are only just starting to emerge now, as the social and economic systems continue to respond to the earthquake and subsequent aftershocks. This work will capture the evolution and adaptation of organisations for at least the next 18 months as part of a longitudinal study.

Much more needs to be known about how organisations have been and will continue to be affected by the 4 September earthquake. The aim of this longitudinal study is to:

- document the effects of the 4 September earthquake on Canterbury organisations
- understand what influences an organisation's ability to mitigate a disaster's effects and recover in the aftermath
- understand the link between pre-earthquake performance and an organisation's resilience in a crisis
- identify how organisations influence each other's recovery within the spatial context of an urban environment, and
- understand the resilience and recovery of rural organisations impacted by multiple hazards including earthquake, snowstorm, drought and flood.

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For more information on the Resilient Organisations Research Programme, please visit: <http://resorgs.org.nz/resobjects.shtml>.

For more information on the University of Canterbury's Natural Hazards Research Centre, please visit: <http://www.nhrc.canterbury.ac.nz/>

For more information on recovery and assistance, please visit: <http://www.recovercanterbury.co.nz/>