Resilient ORGANISATIONS

QuakeCoRE
NZ Centre for Earthquake Resilience

Business Resilience and Recovery following the Canterbury Earthquakes

Business Changes

Results Bulletin 2018 -10

Findings from a survey of 206 organisations in the Greater Christchurch Urban area in mid-2016.

Question

Making changes to business operations is an adaptive action to help organisations cope with new conditions in the post-earthquake environment. Adaptive actions may:

- improve the ability to operate e.g. changing operational processes to overcome difficulties with staffing or inventory
- Improve the relationship between turnover and profit e.g. closing unprofitable lines
- Create new demand e.g. new products or new customers

What level and what type of business changes are reported by respondents?

Findings

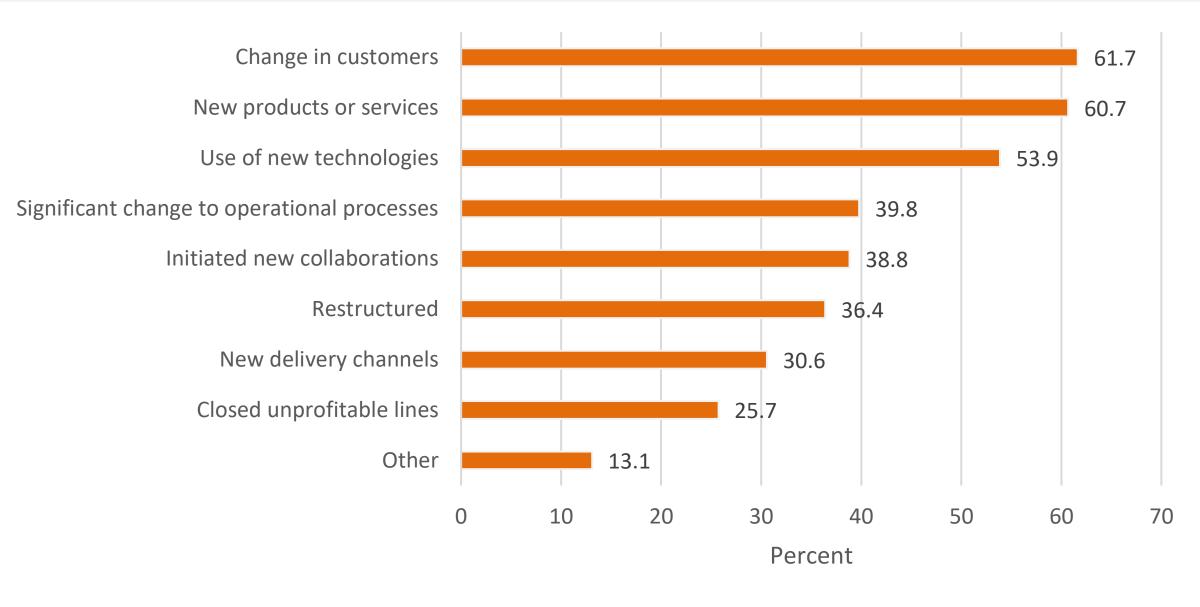
- A total of 91% of respondents made at least one change to their business.
- *New products or services (60.7%)* and a *change in customers (61.7%)* were the most common adaptations, followed by use of new technologies (53.9%).
- The rate of engaging in two business changes, *new products or services* and *new technologies,* was significantly different based on by business type.
- *New technologies* were most likely to be taken up by *local or central government* organisations and least likely by *sole traders*.
- *New products or services* were most likely to be taken up by *limited liability companies* and least likely by those in *partnership organisations.*
- Business age, size or ownership type did not influence the number of business adaptations adopted.
- *Changing customers* was considered the most important by those who did engage in business changes.

Results

What changes were made?

Figure 1 shows the proportion of respondents who made each of the nine changes measured by the survey. Over 60% of respondents introduced *new products or services* and/or had a *Change in customers*. *New technologies* were also used in over half of all cases (53.9%). *Close unprofitable lines* (25.7%) and using *new delivery* channels (30.6%) were among the less common changes, with fewer than one third of organisations indicating engaging in these changed practices.

Figure 1: Proportion of respondents making each change



What types of businesses engaged in changes?

We explored a number of variables to examine the characteristics of those organisations who engaged in individual business changes.

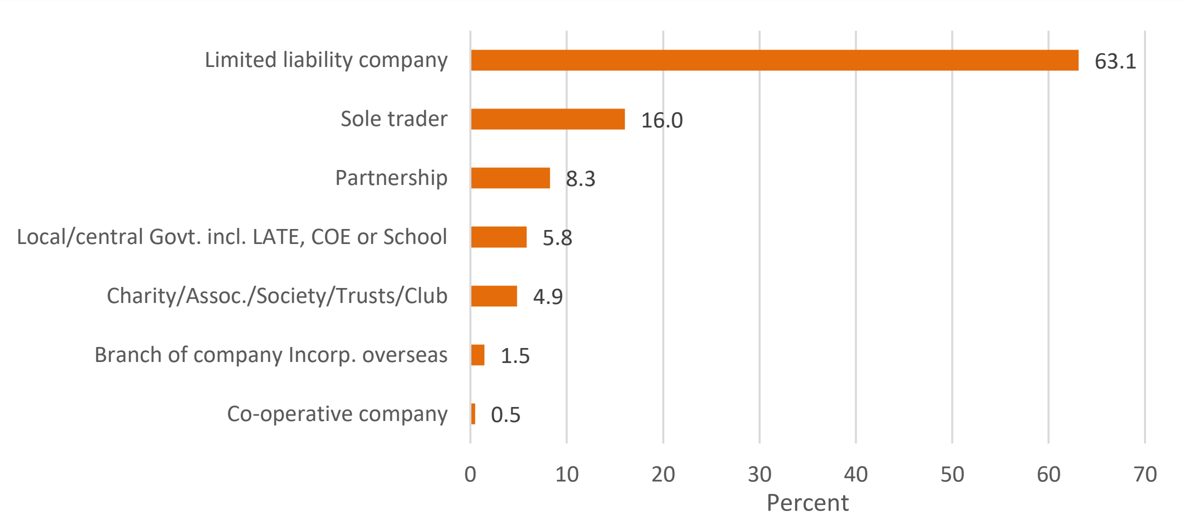
Age and Size

There was no correlation between organisation age or size and propensity to engage in Business changes after the 2010/2011 earthquakes (*Spearman' rho*).

Type of Ownership

Figure 2 details the types of ownership of participating organisations. The most common ownership model was *Limited Liability Companies*, accounting for 63% of participating organisations. *Sole traders* and *Partnerships* made up 16% and 8% of the cohort respectively. A very small proportion of *Branch companies* (1.5%) and *Co-operatives* (0.5%) participated in the study.

Figure 2: Types of ownership of organisations



We examined types of business ownership to determine if there were differences in patterns of business change based on business type. Two types - *branch company* and *co-operative* - were removed from analyses based on the small number of cases leaving a remaining 202 businesses included in this analysis. Of the nine patterns detailed in Figure 1, two were found to significantly differ by business type: *new technology* and *new product or services*. Table 1 below details the distribution of engagement with these business changes. *New technologies* were significantly more likely to be taken up by *local or central government* and less likely for *sole traders* ($X^2(4,202)=16.838$, $p<.01$). Reported moves to providing *new products or services* also differed by business type. Those in *partnership* were less likely to change or add *new products or services* while *limited liability companies* were more likely to provide *new products and services* than others ($X^2(4,202)=10.606$, $p<.05$).

Table 1: Distribution of business changes that differed significantly by business type

	New Technologies	New Products or Services
Sole Trader	24.2%*	51.5%
Partnership	41.2%	35.3%*
Charity/Association/Society/Trusts/Sports Club	50.0%	50.0%
Limited Liability company	60.0%	67.7%*
Local or central government including LATE, COE or School	75.0%*	41.7%
Average	53.0%	60.0%

*Standardised residuals indicated that predicted values were significantly different to the expected values

How many changes did each organisation make?

Table 2 details the number of business changes that organisations made. Since as little as 8.2% of businesses made no changes, conversely 91% of respondents made at least one change.

Table 2: Number of business changes

No. of business changes	% of respondents
0	8.2%
1	11.1%
2	14%
3	14%
4	17.9%
5	14%
6	9.7%
7	6.8%
8	3.9%

Analysis of variance revealed no significant differences in the mean number of changes by ownership type. Correlation also revealed no significant relationship between *organisation age* (in years), *organisation size* (measured by number of full time employees) and number of business changes undertaken.

Which changes were most important?

Respondents who indicated actively changing aspects of business practice were also asked to rank the importance of each change. Rank scores ranged from 1 to 9 where 1 = the most important ranked item. Mean rankings were calculated for each item. The distribution is shown in Table 4 below.

Table 3 - Mean rank of each business change

Type of change	Mean Ranking	N
Change in customers	2.56	104
New products or services	2.67	102
Significant change to operational processes	3.11	72
Restructured	3.18	66
Use of new technologies	3.28	97
Initiated new collaborations	3.32	74
New delivery channels	3.91	54
Closed unprofitable lines	4.29	48

As can be seen in Table 4, the most important change businesses engaged in (and the most widespread change; n=104) was to *Change customers.* This was very closely followed by changing to *New products or services* (n=102). Conversely, *Changing profitable lines* was the least common change undertaken (n=48) as well as the least important by those who undertook it.

Approach

Respondents were asked the following question:

How has your business changed since the earthquakes? (please tick those that apply and then rank in order of their importance to your recovery e.g. most important would be 1)

	Select those that apply	Rank: 1 = Most Important
New products or services	☐	
Change in customers	☐	
New delivery channels	☐	
Use of new technologies	☐	
Operational processes significantly changed	☐	
Restructured	☐	
Closed unprofitable lines	☐	
Initiated new collaborations with other organisations	☐	
Other (please specify)	☐ ____________ ____________ ____________ ____________ ____________	
N/A – business has remained the same	☐	

Reference as:

Sampson, K., Hatton, T., Brown, C., Seville, E., (2018) Business Resilience and Recovery following the Canterbury Earthquakes. Survey 5 Results Bulletin 2018-10 – Business Changes, Resilient Organisations, www.resorgs.org.nz