Resilient
ORGANISATIONS
A collaboration between research & industry

Trends in resourcing and employment practice of Canterbury construction organisations

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About the Resilient Organisations Research Programme

"Building more resilient organisations, able to survive and thrive in a world of uncertainty, through research and practice"

We live in an increasingly complex world dealing with a broad spectrum of crises arising from both natural and man-made causes. Resilient organisations are those that are able to survive and thrive in this world of uncertainty.

Who we are:

The Resilient Organisations Research Group (ResOrgs) is a New Zealand based multi-disciplinary team of over thirty researchers and practitioners with global reach. A collaboration between top New Zealand research universities and key industry players, including the University of Canterbury and the University of Auckland, ResOrgs is funded by the Ministry of Business, Innovation and Employment (MBIE) through the Natural Hazards Research Platform and supported by a diverse group of industry partners and advisors. The research group represents a synthesis of engineering disciplines and business leadership aimed at transforming organisations into those that both survive major events and thrive in the aftermath.

We are committed to making organisations more resilient in the face of major hazards in the natural, built and economic environments. Resilient organisations are able to rebound from disaster and find opportunity in times of distress. They are better employers, contribute to community resilience and foster a culture of self-reliance and effective collaboration.

What we do:

The ResOrgs programme of public good research is aimed at effective capability building through research activities with significant impacts on policy and practice. Activities and outputs of the group, in existence since 2004, include informing and focusing debate in areas such as Civil Defence Emergency Management, post-disaster recovery, and the resilience of critical infrastructure sectors, in addition to core activities in relation to organisation resilience capability building and benchmarking. We have produced practical frameworks and guides and helped organisations to develop and implement practical resilience strategies suitable to their environment.

Why we do it:

In an increasingly volatile and uncertain world, one of the greatest assets an organisation can have is the agility to survive unexpected crisis and to find opportunity to thrive in the face of potentially terminal events. We believe such resilience makes the most of the human capital that characterises the modern organisation and offers one of the greatest prospects for differentiating the successful organisation on the world stage. This resilience is typified by 20/20 situation awareness, effective vulnerability management, agile adaptive capacity and world class organisational culture and leadership. More resilient organisations lead to more resilient communities and provide the honed human capital to address some of our most intractable societal challenges.

For more information see our website: www.resorgs.org.nz

Executive Summary

Five years on since the first major earthquake struck the Canterbury region, the reconstruction is well advanced. Christchurch is a city in transition. This report considers trends in resourcing and employment practice of Canterbury construction organisations in response to the projected market changes (2015-2016). The report draws on the interviews with 18 personnel from 16 construction organisations and recovery agencies in October 2015. It provides a summary of perceived changes in the construction market in Canterbury, evidence of what steps construction businesses have been taking, how they have prepared for likely changes in the reconstruction sector, as well as the perceived alignment of public policies with the industry response.

The key findings are as follows:

- There is a consensus among interviewed construction businesses that the Canterbury rebuild work, particularly the residential rebuild work and SCIRT's horizontal infrastructure repair work, plateaued in 2014, started falling in 2015 and is expected to wrap up by end of 2016.

- In anticipating the potential downward pressure in the residential and infrastructure rebuild sectors, subcontractors of different tiers had re-structured their businesses. Meanwhile building companies, especially small and new start-up businesses, have or are considering 'downsizing' staff.

- There are still reported shortages in certain types of specialist trades, such as driveway contractors, scaffolders and tilers.

- Improving efficiency is a key focus for most interviewed construction organisations, such as improving staff performance; reviewing business structures, improving supply chains and increasing their customer base.

- Reflecting on current public policies, interviewed organisations commended current fixed term policy responses to alleviate labour force impacts of the disaster, including the dedicated one-stop Canterbury 'Skills and Employment Hub' and the New Zealand Apprenticeships, which they felt had been effective in assisting construction businesses to recover, retain staff and continue to operate in the rebuild sectors.

- As the rebuild work proceeds at a slower pace, it is likely that further challenges will emerge in retaining the core skills and competences that have been developed during the rebuild in the region. The availability and affordability of housing, and career prospects in Christchurch, the retention strategies adopted by construction businesses, and coordination across the relevant agencies and sectors will have a strong influence on labour supply.

- Industry structure-related factors, such as high turnover, youth employment, lack of knowledge transfer within the subcontractor and sector levels, and a lack of investment in training and skills development at a business level, are still prominent, and having an impact on workforce development strategies within construction organisations.

- Certainty issues for workers in newly established organisations post-earthquake such as CERA, Fletcher EQR and SCIRT have emerged, including the transition of staff members with rebuild experience, continued demand for certain roles in the rebuild sectors, knowledge transfer and documentation for long-term reconstruction. All these issues, together with lessons learned from the set-up of those organisations and their institutional and functional arrangements, provide implications for the development of capacity and capability in managing large-scale urban rebuild and will influence the development of an effective workforce strategy in Canterbury for the long term.

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Acknowledgement

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[1] According to the requirements of the Human Ethics Committee of the University of Auckland (Reference number 7520), the identity of the interviewees and their organisations will be kept confidential in this report.

1. Introduction

Five years on since the first major earthquake struck the Canterbury region, the reconstruction is well advanced. The latest estimate from Westpac (2015a) is that the Canterbury rebuild has peaked and the demand for construction workers in Canterbury is expected to fall from late 2016. The perception of many of those working in the Canterbury construction market is reasonably aligned, namely that the maximum output levels of the rebuild will be between 2016 and 2017, and it is expected to be sustainable over a number of years (AECOM, 2015).

Christchurch remains a city in transition. SCIRT's programme of works is nearing completion with activity expected to continue at current levels for another 12 months until 2017. The longitudinal study by the authors of this report suggests that the speed of recovery has so far been gradual with the momentum of growth picking up in 2012, a year after the February 2011 earthquake (Chang-Richards et al., 2014). The recovery accelerated quickly between 2012 and 2013, given that the spending on infrastructure repairs has been smooth, a majority of damaged property was insured and the payments for these have mostly been finalised.

As construction businesses prepare themselves for a likely downturn in the near future, a reversal in employment practice has been observed, changing from recruitment to subcontracting and to focussing on workforce retention (Chang-Richards et al., 2015a). Construction companies are concerned about a possible bust in 2016 when the residential reconstruction and infrastructure repairs are complete.

There is still a large amount of rebuild work to be completed in Christchurch. Providing some offset to the moderation in residential construction activity is a pick-up in non-residential reconstruction spending. This includes:

- Around $2.5b of spending on horizontal infrastructure by SCIRT. In mid-2015 around 75% of this work was complete, with the program expected to be largely complete by the end of 2016[2].
- Around $8b of spending on public and social assets, such as education and health care facilities (CERA, 2015).

[2] SCIRT- http://strongerchristchurch.govt.nz/more-progress

- Finally, there will be a large amount of privately funded spending on commercial construction. This includes the replacement of damaged assets (many of which will be rebuilt to a higher standard than pre-earthquake levels), and the construction of new assets (Westpac, 2015b).

In addition to the expected demand in non-residential rebuild activity in Christchurch, it is expected that extra pressure will be placed on the workforce requirement from other markets over the next two or three years, including an increase in housing development growth in Auckland, improved economic prospects in Europe (which may mean some of the nearly one-third expanded workforce in the studied organisations returning home, many who were migrants from Europe, particularly the UK and Ireland), and infrastructure investment in other cities in New Zealand (Chang-Richards et al., 2015b).

Against this backdrop, this report considers trends in resourcing and employment practice of Canterbury construction organisations in response to the projected market changes (2015-2016) described above. This report draws on interviews with 18 personnel from 16 construction organisations and recovery agencies in October 2015. It provides a summary of perceived changes in the construction market in Canterbury, evidence of steps construction businesses have been taking, how they have prepared for likely changes in the reconstruction sector, as well as the perceived alignment of public policies with the industry response.

2. About the interviews

In October 2015, the research team carried out a series of interviews with 18 individuals from 16 construction organisations and recovery agencies that have been involved in the rebuild in Christchurch. The sampled organisations in each sector (housing, commercial, and infrastructure) included building and construction, material/product manufacturing and supply, subcontracting, and trades. Other personnel from relevant agencies such as the Canterbury Earthquake Recovery Authority (CERA), Fletcher EQR and Statistics New Zealand were also consulted in order to gain a multiple view of observed changes in the Christchurch construction market. Table 1 below provides information about the interviewed organisations and the interviewees.

Table 1: Information about interviewed organisations and interviewees

Organisation (16)	Interviewee (18) and the interviewee coding
Building and construction	4 (3 personnel from 2 residential building companies, coding BC1, BC2 and BC 3; 1 interviewee from 1 civil main contracting business, coding BC4)
Material/product manufacturing	3 (1 interviewee from a steel manufacturer, coding S1 and 2 interviewees from 2 concrete manufacturers, coding C1 and C2)
Material/product supply	2 (1 interviewee from a brick supply company, coding BS1; and 1 from a door/window products supply company, coding DS1)
Subcontracting	2 (2 interviewees from 2 civil subcontractors, coding CS1 and CS2, respectively)
Trades	2 (coding T1 and T2)
Master Builders Canterbury	1 (coding MB1)
CERA	2 (coding CE1 and CE2)
Fletcher EQR	2 (coding FE 1 and Fe2)
Statistics New Zealand	1 (coding S1)

Face-to-face interviews were conducted during a field trip to Christchurch in October 2015, including the collection of the following information:

a) their perceived changes in the construction market in Canterbury;
b) how they have prepared for likely changes in the reconstruction sector and the steps they have been taking; and
c) the perceived alignment of public policies with the industry response.

The research design and data collection methods complied with the requirements of the Human Ethics Committee of the University of Auckland (Reference number 7520).

3. Perceived market changes and the potential employment impact in the Canterbury construction industry

There is a consensus among interviewed construction businesses that the Canterbury rebuild work, particularly the residential rebuild work and SCIRT's horizontal infrastructure repair work, plateaued in 2014, started falling in 2015 and is expected to wrap up by end of 2016.

As of October 2015, construction businesses reported that the impact of this downturn is already being felt in the Canterbury construction labour market. The observed trend is that:

- Some tier one contractors[3] new to the Canterbury construction market started re-evaluating their presence in Christchurch in 2015, and/or diversifying into other industries and making alternative employment arrangements.
- Since the beginning of 2015, some tier two contractors (the subcontractors to tier one contractors) relocated back to where they came from. In most cases, the owner/manager of these tier two contractors may have shifted back while the Canterbury workers they employed since the earthquakes are at risk of unemployment.
- Tier three contractors (sub-contractors to sub-contractors of the main/head contractor, often very small/specialist sub-contractors) who were new to the Canterbury market are less able to cope with the downturn pressure on the Canterbury rebuild. Since the third quarter of 2014, a number of new to Canterbury tier three contractors initially based outside the Canterbury region have started leaving the region.

With a large amount of residential repair work complete, there are signs that residential reconstruction is starting to ease back. This is accompanied by a waning demand for new housing development in subdivisions. There is a general concern among interviewed builders that some post-quake start-up building businesses will downsize or re-structure their businesses. Small builders need to plan for the slowdown to reduce the likely employment impact. In anticipating the potential downward pressure on some of their member organisations, the NZ Registered Master Builders Association has been taking a proactive approach by offering business reshaping and restructuring advice to their members.

[3] The term 'tier one contractor' was commonly cited by interviewed construction organisations in Canterbury. It could also refer to the Head Contractor. It refers to a main/general contractor who is responsible for providing management, material, labour, equipment and services necessary for the construction of the project. The main/general contractor hires specialist subcontractors to perform all or portions of the construction work.

In contrast with residential and horizontal infrastructure repair works, the workloads in earthquake-related commercial rebuild are entering a period of growth driven by good visibility of public spending on anchor projects in the Christchurch CBD. Companies interviewed were optimistic about such growth and expected that commercial rebuild activities will continue to increase for a sustained period of time.

4. Response of construction businesses in Canterbury

Interviewees in October 2015 suggested that even though the Canterbury rebuild pipeline is clear over the next three to five years, the levelling out in the residential sector as a whole (both reconstruction and business as usual new housing developments) will have significant implications for the construction industry. Reflecting on 2015 and looking into 2016, the way construction businesses are coping and adjusting in response to the market changes can be summarised as follows.

The upwards pressure on costs in the housing and construction sector, in particular, the pressure on wages seemed to be easing off due to reduced activities in residential reconstruction and in new subdivisions. There are still reported shortages in certain types of specialist trades, such as driveway contractors, scaffolders and tilers. Builders had typically factored a margin for risks, including uncertain material and labour costs and availability.

There is a concern among a number of companies that the new health and safety law (the Health and Safety at Work Act) and associated regulations being developed will increase compliance costs, especially for small businesses.

> *"The biggest challenge for small companies like us is to get our head around the process. It took us six months to be familiar with the process, and a good year before we get a good amount of work to sustain our business. The new Health and Safety Act will come into force soon and the whole processes will change again, we are just waiting to see the changes."* (Interviewed builder BC2, October 2015)

Nearly all the interviewed companies reported that they have (as of October 2015) reached a steady business state, but with differing outcomes, for instance, some downsizing to the pre-earthquake levels and some maintaining the same labour capacity as in 2014 without further expansion.

Improving efficiency seems to be a key aim for most interviewed construction organisations. Improving efficiency was particularly cited by interviewed building supplies companies, when asked about how they have managed to increase their business viability and reduce their total cost. Re-checking staff performance, reviewing their business structure, their supply chain and customer base, as well as using subcontractors, were the common strategies reported by construction businesses in improving efficiency.

> "*What we have learned from those few years (since the earthquakes) is that apart from having good competent workers, we also need efficiency to achieve better work flows and reduce the cost of business operation.*" (Interviewed building supplies company BS1, October 2015)

5. Perceived alignment of public policies with the industry response

This section provides a stock take on whether policies from public agencies, particularly MBIE, are aligned with the industry response following the earthquakes. The interviewees from construction organisations were asked if any government support initiative and strategies from MBIE have affected the construction labour supply and demand in Canterbury and assisted the response of construction businesses to the changing demand.

In reviewing MBIE's strategies, it was found that following the earthquakes the broad approach taken by MBIE can be characterised as providing a stable strategic framework to promote and develop the city's economic opportunities, while providing employment and training support to those in need. An important focus was on trying to coordinate the rebuild and recovery work so that economic opportunities for investment, innovation and job creation were maximised, along with efforts to improve the wellbeing of the community. A range of government interventions were introduced following the earthquakes. Some have since been scaled back while others are on-going.

Government assistance in terms of a workforce strategy can be grouped into two broad streams:

- Short-term (often under a year) assistance to restore confidence and minimise labour market disruption
- Longer-term, expansion and development of a suitably skilled workforce to undertake the rebuild

5.1 What government assistance seemed most effective for construction businesses in Canterbury?

When asked 'What government assistance seemed most effective for construction businesses in Canterbury?', most interviewees highly commended **the immediate fixed term policy responses to alleviate labour force impacts of the disaster** including

- income support to workers temporarily laid off due to earthquake damage;
- grants and interest free loans to eligible businesses to cover earthquake costs; and
- a wage subsidy for employers who hired job seekers in the Canterbury region;

For the rebuild, several interviewees spoke highly of the expanded training programmes and employment matching programmes, such as the dedicated **Canterbury 'Skills and Employment Hub**' to help match labour supply and demand, particularly in the Canterbury construction market. As the interviewee CS1 commented that,

> '*It is a 'one stop shop' for us (employers) and job seekers. The Hub website allows us to list vacancies and be matched with jobseekers from Christchurch and elsewhere in New Zealand. It saves us a lot of time in searching any suitable candidates in the country, and frees us up for searching highly skilled people from overseas if needed*' (Interviewee CS1, October 2015)

Of concern were the comments from the interviewed small-to-medium businesses (e.g. BC4, BS1, T1 T2 and DS1) who shared the common view that MBIE had given greater priority to short-term business assistance in order to retain people in jobs, with few initiatives focused on developing resources that proactively assist small to medium enterprises to build resilient, sustainable businesses. In particular, the interviewee T2 commented that the Construction Sector Workforce Plan for the Greater Christchurch lacks information on how businesses can adopt certain strategies to attract, retain and develop appropriately skilled and experienced people for the rebuild.

There are changes to the government's industry training model (from 'Modern Apprenticeships' to '**New Zealand Apprenticeships**') since 2014 to encourage more New Zealanders in vocational careers, in response to emerging opportunities – particularly with the rebuilding of Christchurch. Most interviewees suggested that the increased funding for apprenticeships had allowed the industry training organisations to invest more in the quality of education, lowered fees for employers and encouraged growth in the uptake of apprenticeships. Other Canterbury-specific training-related initiatives such as the following received positive comments from several interviewees:

- He Toki kit e Rika Maori trades training initiative – partnership between Ngai Tahu (the largest indigenous Maori tribe in Canterbury) and local polytechnics, which has had some hundreds of primarily young Maori men undergo trades training.

- Pacifica trades training initiative launched nationwide, which has enrolled more than 200 Pacific people into trades training

- Local polytechnics have been working with key infrastructure and construction partners, such as SCIRT, to offer a programme where learners complete appropriate entry level skills to become work ready and then progress into employment and complete their qualifications through industry training.

5.2 Comments on other policies

There is a concern among a number of companies that the new health and safety law (**the Health and Safety at Work Act**) which will come into force on 4 April 2016 and associated regulations being developed will increase compliance costs, especially for small businesses. Several interviewees (e.g. BC1, BC2, CS2, T1 and T2) were uncertain about the impact of such new Act on their business operations, as the interviewee BC2 commented that,

> 'When t*he new Health and Safety comes soon next year; all the processes will change. Some of the training courses are not available because people are waiting for the changes. We have been holding on many things, as we possibly need to change things in our business to accommodate such new regulation.*' (Interviewee BC2, October 2015)

Two interviewees BC1 and T1 commented that the compliance to such a new regulation will increase the level of safety in the workplaces, but will also increase the cost of operating a small business and managing staff. They both hoped that the government will provide certain financial support or subsidies to help top up the compliance cost incurred by the small-to-medium sized construction businesses.

Interviewee T2 hoped to see another tier of license by trade qualification so that tradespeople in his trade (i.e. gib fixers) can carry out certain restricted building work without the supervision of a licensed building practitioner (LBP). He the following comment:

> '*I can completely understand where the LBP comes from. For certain tradespeople like plasterboard, no matter how experienced you are, you cannot be a LBP, but we have been doing restricted building work for years and have got the skills and knowledge. We felt like there is no flexibility in the LBP scheme and we have missed out*' (Interviewee T2).

5.3 Overall assessment

In terms of outcomes, positive comments on staff retention and job matching assistance provided by MBIE indicate that the labour market programme in the Canterbury construction sector has been effective, even though it is hard to attribute this to any particular policy.

Some of the factors noted in earlier reports (Chang-Richards et al., Chang-Richards et al., 2013; Chang-Richards et al., 2014; 2015), such as high turnover, youth employment, lack of knowledge transfer within the subcontractor and at the sector level, and lack of investment in training and skills development at the business level, are still prominent and need to be further addressed.

There is evidence from our longitudinal study (2011 to now) that government policies enabled many firms to retain staff through the period of greatest uncertainty. Most interviewed employers who received the Earthquake Support Subsidy believed it helped a great deal. Our interviews in October 2015 also showed that due to the timely assistance from the government, many employers felt confident to retain staff even though they lost revenue immediately following the earthquakes.

As the rebuild work proceeds, it is likely that further challenges will emerge in retaining the core skills and competences that have been developed during rebuild in the region. The availability and affordability of housing and career prospects in Christchurch, the retention strategies adopted by construction businesses and coordination across the relevant agencies and sectors will have a strong influence on labour supply.

Certainty issues for workers in newly established post-earthquake organisations such as CERA, Fletcher EQR and SCIRT have emerged, including the transition of staff members with rebuild experience, continued demand for certain roles in the rebuild sectors, knowledge transfer and documentation for long-term reconstruction. All these issues, together with lessons learned from the set-up of those organisations and their institutional and functional arrangements, provide implications for the development of capacity and capability in managing large-scale urban rebuild and will influence the development of an effective workforce strategy in Canterbury for the long term.

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