Research Note: Conceptualising Adaptive Resilience using Grounded Theory

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Abstract

We present the initial findings from a study of adaptive resilience of lifelines organisations providing essential infrastructure services, in Christchurch, New Zealand following the earthquakes of 2010-2011. Qualitative empirical data was collected from 200 individuals in 11 organisations. Analysis using a grounded theory method identified four major factors that aid organisational response, recovery and renewal following major disruptive events. Our data suggest that quality of top and middle-level leadership, quality of external linkages, level of internal collaboration, ability to learn from experience, and staff well-being and engagement influence adaptive resilience. Our data also suggest that adaptive resilience is a process or capacity, not an outcome and that it is contextual. Post-disaster capacity/resources and post-disaster environment influence the nature of adaptive resilience.

Introduction

This research note offers an overview of a significant New Zealand research project exploring organisational resilience in the aftermath of the Canterbury earthquakes. The project commenced in 2012 and finishes towards the end of 2015. As the project passes its midway point, we briefly share and reflect upon some of the initial findings. Other, more detailed articles will subsequently provide a more comprehensive account of the project's activities and the specific outcomes.

Background

Most organisations are likely to encounter crises that have the potential to impair or even end their functioning. The crises can include local incidents, or broader dynamics such as globalisation, discontinuous shifts in technology or the increasing occurrence of natural and man-made disasters (Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008). The concept of resilience offers an explanation for the differing outcomes that result from these experiences, with some organisations successfully addressing those crises and adapting to new situations, while others may falter or fail. The growing interest in resilience and the need to identify ways to boost organisational resilience reflects the frequency of organisational crises, with organisations increasingly forced to rapidly adapt to changing, and often unpredictable situations.

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Resilience has been defined in a variety of ways (Norris et al., 2008; Zhou, Wang, Wan, & Jia, 2010). In the positive organisational scholarship literature, Vogus and Sutcliffe (2007) define resilience "as the maintenance of positive adjustment under challenging conditions such that the organization emerges from those conditions strengthened and more resourceful" (p. 3418). In their definition, resilience not only helps the organisation to cope but it makes it better. In a similar vein, Norris et al (2008: 130) define resilience as "a process linking a set of adaptive capacities to a positive trajectory of functioning and adaptation after a disturbance." While the notion of individual resilience has gained prominence in addressing the coping capacities of individual persons, the emerging concept of organisational resilience represents a distinct, although related, construct which has the potential to integrate research from a variety of organisational perspectives that have focused on organisational crises, adaptation, learning and employee well-being and engagement in dynamic and volatile environments.

Resilience can be viewed as consisting of two dimensions. Planned resilience or first-order capacity involves the use of existing, predetermined planning and capabilities, as exemplified in business continuity and risk management which are predominantly pre-disaster activities. In contrast, adaptive or second-order resilience emerges during the post-disaster stages as organisations develop new capabilities through dynamically responding to emergent situations that are outside of their plans (Lee, Vargo, & Seville, 2013).

In this note, we present the initial findings from a study of organisational resilience, specifically adaptive resilience, of lifelines organisations in Christchurch, New Zealand. The city was hit by a series of devastating earthquakes from September, 2010. The February 2011 event was the most devastating, causing 185 deaths and widespread infrastructure and property damage. By December 2012, more than 12,000 aftershocks were recorded. During this period following the disaster, organisations in the city had to effectively respond to the disaster, recover from its consequences and manage renewal in the altered post-disaster context. In this study, we have defined organisational resilience as the capacity or ability to respond effectively, recover quickly and achieve positive renewal in the new environment. The research was guided by the two broad questions: (a) How did the organisations in our study respond to the crises? How did they recover? How did they positively adapt to the new environment? (b) What helped them in effective response, recovery and renewal?

Research Design and Methodology

There are relatively few studies that have examined how organisations perform in an actual disaster. The phenomenon that we were dealing with was relatively unique and dynamic, with an extended period of ongoing, significant seismic events. Therefore, we opted for an inductive qualitative study using grounded theory procedures for data collection and analysis (Charmaz, 1990; Corbin & Strauss, 2008; Yin, 1984).

We drew on a pilot study of four large organisations in Christchurch impacted by the earthquakes, conducted between October and December 2011. The four were a mix of commercial and non-commercial organisations (such as a public hospital). The pilot study provided a glimpse of some of the categories that we wanted to explore in detail in a larger study.

Between October 2012 and May 2014, we collected data from 10 "lifeline" organisations, that is, organisations that provide essential infrastructure services to the community, such as water, wastewater, transport, energy and telecommunications (Lifeline Utilities, 2014; New Zealand Treasury, 2014). We also studied one further organisation that included a collective or alliance of

other organisations. Since that organisation was of a different type from the others, we will not discuss this here; it will be the subject of separate articles.

In each of the 10 organisations, we collected data from individual interviews with senior managers who were involved in the response, recovery and renewal. In two organisations, data was also collected through focus group discussions. Across the 11 organisations, a total of 159 individuals were interviewed and 41 individuals participated in the focus groups.

Findings

We categorised the phases of the disaster aftermath as immediate response, recovery and long-term renewal. While each organisation faced its own separate challenges, certain issues were common across the 10 organisations. The dominant themes throughout the phases of the disaster included; (a) employee needs, well-being and engagement; (b) collaboration; (c) leadership; and (d) organisational learning.

Our data suggest, firstly, that understanding the trajectory of employee needs in the aftermath of a disaster is critical to effective response and recovery. During the response and recovery stages, primary tangible needs were easy to identify and address, however, other employee needs were unarticulated and only emerged later (Nilakant, Walker, Rochford, & van Heugten, 2013). The more resilient organisations were sensitive to the full, evolving range of employee needs. Middle managers played a key role in identifying and responding to employee needs. When those managers lacked empathy and emotional intelligence, however, this adversely affected staff perceptions of the organisation, and engagement declined.

Communication was a critical part of this process of relating with employees. Ongoing communication, including active listening in order to monitor changing needs, boosted organisational resilience. The need to manage employee workload and foster employee well-being was similarly evident. The organisations studied were infrastructure and lifelines organisations, where people worked long hours and risked fatigue to assist their community. Organisations learned to provide flexibility to assist staff in dealing with personal issues, and often developed more comprehensive personal well-being programmes. Customised human resource practices were more effective than a one-size-fits-all approach.

Collaboration proved to be a second vital element of resilience. In a post-disaster situation, an organisation is forced to respond to a new context, often with only limited experience and resources. Resilience was boosted when organisations were able to make internal changes, such as breaking down organisational silos in order to draw upon the combined resources and synergies of different sections. Similarly, when organisations were able to use their established networks to link and collaborate with others, this expanded their resources, their ability to learn, and their capacity to respond to the situation.

The role of the local leadership was a third crucial feature of resilience. The local leaders who achieved a strong sense of engagement and respect among their staff were characterised by features such as being empathetic, self-aware as well as valuing people and prioritising them over profits. Staff responded positively to leaders who were visible, honest, caring, and authentic in their communication. These leaders expressed genuine appreciation of staff efforts, and prioritised both their own well-being and that of their staff. Effective local leaders also empowered staff at lower levels, and were sensitive to the evolving context.

Several of these more effective leaders mentioned their own growth and learning from the disaster-related experiences, describing, for example, how they became less judgemental and more understanding. Related to this, the leaders did not get caught in the immediate crises but thought about long term issues early on, and tended to consciously balance risk with opportunity. Overall, they possessed what we termed "'situational awareness"; this included clarity of direction and goals, active networking, sharing and collaboration, readiness to try new approaches, awareness of staff well-being, and appropriate communication.

Learning emerged as a fourth essential feature. We observed that organisations generally responded very well to the immediate crisis. In the initial response phase, they moved out from their standard routines and mind-sets to focus directly on the pressing, and very evident issues associated with the disaster. Typically, they learned how to respond to a disaster, they exhibited greater-than-ordinary collaboration, and they paid attention to staff well-being. For some organisations, their post-disaster learning did "spill over" to create new, enhanced ways of functioning that persisted long-term, and this learning also spread to other parts of the organisation. Those organisations developed processes and procedures to systematically learn from their experiences. However, in other areas, the initial adaptation and altered approaches did not endure. While the earthquakes resulted in huge opportunities for some organisations, they did not always become better at reflecting, learning and adapting long-term.

Discussion

For this study, we operationalised adaptive resilience as the ability to respond effectively, recover quickly, and successfully renew in the face of adverse events.

Crises such as major disasters alter an organisation's landscape. Our research has identified four categories that seem central to effective response, recovery and renewal. These are staff well-being and engagement, collaboration, leadership, and learning.

Staff engagement was a major driver for adaptive resilience. While the disaster could provoke an initial short period of heroism and heightened engagement, this could erode quickly unless leaders put specific initiatives in place to sustain well-being and engagement. Staff well-being and engagement, while conceptually distinct, are practically related as part of a broader phenomenon that involves well-being as an antecedent to engagement (Macy & Schneider, 2008). In organisations, where staff felt cared for, empowered, and valued, staff engagement tended to be high. Work-life balance and the acknowledgement of family ties tended to enhance a sense of well-being. The emotional literacy of middle management played a key role in sustaining engagement.

Leadership emerged as a central feature, with empathetic leadership particularly vital in the response and recovery phases. The leaders who fostered resilience exhibited a range of features that differentiated them from less effective leaders. They could articulate values and behaviours that were corroborated by other organisational members as central elements of resilience, such as open and frequent communication with staff; placing a high value on staff (and family) well-being; empowering their staff. These leaders were open to learning and mindful of the future and, most importantly, they created a caring culture, a learning culture and a collaborative culture – aspects that promoted better response, faster recovery and positive renewal.

While leadership and staff engagement played a primary role in adaptive resilience, collaboration and learning were catalysts that promoted that ongoing resilience, particularly in the recovery and renewal stages. Organisations that were externally well-networked could draw upon resources and support in the response, recovery and renewal stages. Rapid adaptation in a dynamic environment requires quick decision making and flexibility in operations. Internally, organisations that had built up entrenched, separated silos found it harder to respond quickly. Teamwork inside the organisation also promoted adaptive resilience by ensuring quicker decision making and faster responses.

In a dynamic environment, organisational adaptation is contingent on continuous learning. Organisations need to establish a culture of openness, teamwork and shared vision to promote learning (Sinkula, 1994; Sinkula, Baker, & Noordewier, 1997). This aspect has tended to receive less attention in most organisations. Organisations typically lacked a systematic approach to organisational learning and there was little dissemination of new insights.

Relating this set of factors to the overall concept of organisational resilience shows the factors function in differing ways. Leadership and staff engagement can be viewed as *creating* adaptive resilience whereas collaboration and learning are needed to *sustain* it. Figure 1 below shows the framework for adaptive resilience that emerged from this study.
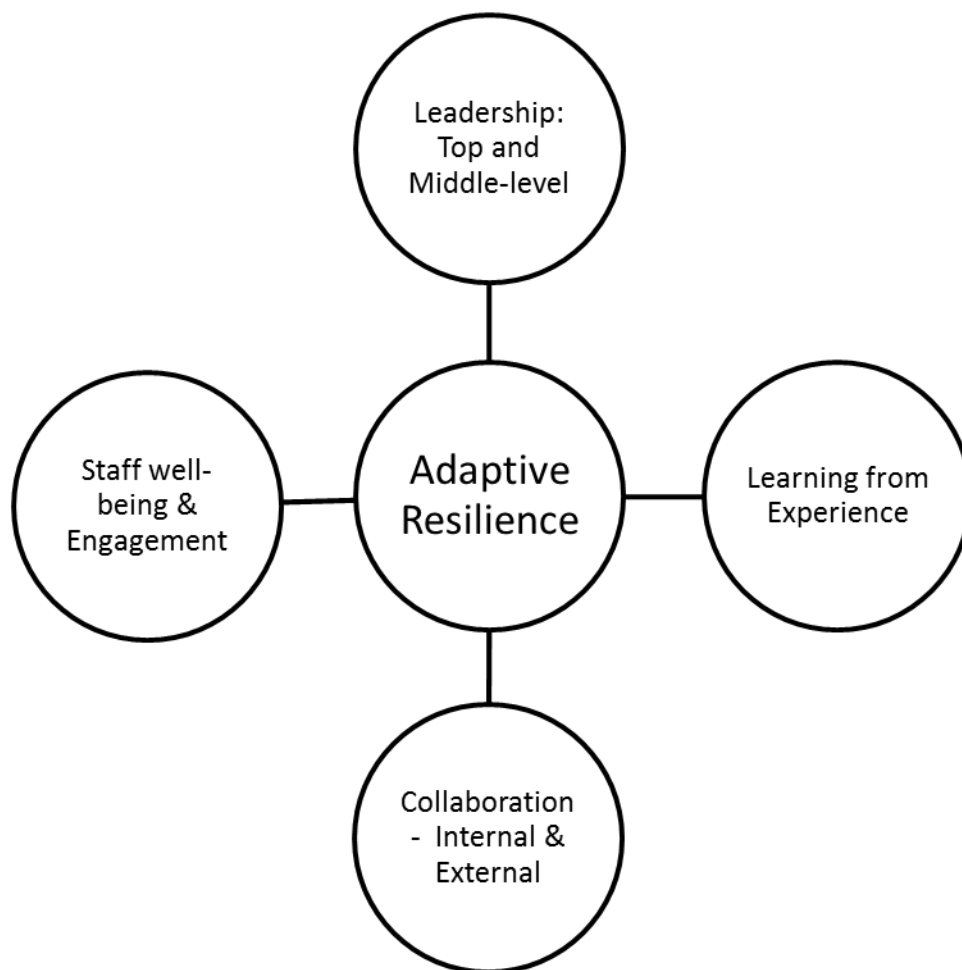

Figure 1: Framework for Adaptive Resilience

Our findings suggest that adaptive resilience is also influenced by the context. In a large scale crisis such as a disaster, some organisations may be impacted severely while others experience little damage. If we conceptualise an organisation's landscape as its markets or resource streams, the organisational landscapes can vary significantly in a disaster. Two aspects of an organisation's landscape significantly influence its adaptation: (a) the availability of resources, and (b) the dynamism of its environment (markets/suppliers/resource streams). An organisation's resources, both tangible and intangible, may remain intact after a disaster or these may be significantly eroded. Similarly, the post-disaster environment may be similar to the pre-disaster environment or it may be significantly different. A different environment may be what we term "positive" or "negative". A positive environment will offer opportunities for growth in terms of an expanded market or demand, whereas a negative environment will be more challenging with a decline in demand. These two dimensions, resource availability and environmental dynamism can be combined to produce four different scenarios, as shown in Figure 2 below.

Post-disturbance Market/Environment

	Similar	Different
Adequate Post-disturbance Organisational Resources	Resilience is about sustaining performance	Resilience is about leveraging strengths
Inadequate	Resilience is about acquiring resources	Resilience is about exploring new opportunities

Figure 2: Contextualising Adaptive Resilience

The four scenarios require an emphasis on differing factors. If an organisation's post-disaster environment is similar to its pre-disaster environment, and its resources, both tangible and intangible, are largely intact (top left quadrant), then adaptive resilience is centred on dealing with the disruption and sustaining performance. In this situation, the two factors of leadership and staff engagement will be central to quick recovery.

If an organisation's post-disaster environment is similar to its pre-disaster environment, but resources are significantly eroded (lower left), then adaptive resilience focuses on rapidly mobilising resources. Collaboration becomes a central element, along with leadership and staff engagement.

If an organisation's post-disaster environment is different from its pre-disaster environment, and its resources, both tangible and intangible, are largely intact (top right), then adaptive resilience is all about leveraging its existing strengths in the new environment. In this situation it is learning, along

with leadership, and staff engagement that are likely to be the key to effective recovery. This is, of course, contingent on the post-disaster environment having enough resource to support the recovery.

If an organisation's post-disaster environment is different from its pre-disaster environment, and its resources, both tangible and intangible, are eroded (lower right), then adaptive resilience primarily involves mobilising resources and exploring new opportunities. Here, the four factors – leadership, staff engagement, collaboration and learning – are all central to recovery and renewal.

Conclusion

Recovery and renewal require both tangible resources, such as physical assets and money, along with intangible assets like human capital, knowledge and leadership. The most significant contribution of our study is to conceptualise adaptive resilience as a complex dynamic that is constituted by a constellation of tangible and intangible resources, and then identify its core components using a grounded theory method. The quality of top and middle-level leadership, together with the level of staff engagement, determine an organisation's adaptive resilience. However, if its constituent resources are neglected and eroded rather than fostered and sustained, adaptive resilience will tend to diminish over a period of time. To counter this, the quality of an organisation's internal and external collaboration, together with a learning orientation, can promote and sustain its adaptive resilience.

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