



Disaster Recovery and Resilience

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WHAT ARE THE MOST EFFECTIVE WAYS OF BUILDING BUSINESS RESILIENCE IN REGIONAL COMMUNITIES?

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PHOTOS

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What are the most effective ways of building business resilience in regional communities?

Report for Regional Australia Institute

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We respectfully acknowledge the Kurna, Boandik and Barngarla First Nations Peoples and their Elders past and present, who are the First Nations' traditional owners of the land that are now home to the University of South Australia's campuses in Adelaide, Mount Gambier and Whyalla.

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EXECUTIVE SUMMARY

The following report has been prepared for the Regional Australia Institute by researchers from University of South Australia Business. The report presents findings of an investigation into how regional communities benefit from the resilience of regional business ecosystems (RBE) and how this ecosystem influences regional community disaster recovery.

The scope of the research project included:

- Desk research and a literature review to investigate the relationship between RBE resilience and community resilience
- Qualitative field research on two Australian case study regions that have endured and recovered from different types of disaster events. The field work adopted the enquiry framework to examine more particularly how the Australian case regions compared and contrasted to the findings of the desk research and literature review.
- A quantitative survey designed for Australian conditions of the two case study regions to test the coherence of the findings of the qualitative field studies. The quantitative study surveyed a broad range of businesses in each region, collecting data on business resilience and the factors that influence resilience.
- Development of a policy framework to assist in developing an RBE resilience governance model

Major findings and conclusions from this report include:

RBE factors that influence post-disaster recovery can be broadly aligned to four categories: Internal Business Factors, External Relational Factors, Resources, and Government. Our interview and survey data find that within the regions the internal business factors appear relatively strong, with businesses demonstrating the entrepreneurial capacities of adaptability, flexibility, and responsiveness in broad terms. With respect to the external relational factors, we find that the presence of existing social networks, level of trust among regional businesses, and the extent to which businesses support each other during crises to be fundamental elements of resilience. We also find that resilience is driven by strong relationships with other local businesses / suppliers and industry association groups.

In direct response to crises, resilient businesses are likely to exhibit high adaptability in response to local needs and crisis. Notwithstanding the criticality of businesses to RBE resilience, other actors contribute to the response to crisis and recovery efforts. In particular we isolated the business and community set of actors such as chambers of commerce and industry or business associations. Local and to some extent state government agencies also have a significant role to play, especially in a coordination role. Local councils are well placed to respond to the broad base of local business needs, for instance.

RBEs are also influenced by National Strategies of the federal government and the activities of state

government actors. However, the data suggests that these strategies are often ill-prepared and misaligned with the needs of local communities, which leads to unintended consequences and can encumber the recovery process.

In broad terms, we present resilience as cyclical in nature, with the fundamental phases comprising: Crisis Response, Recovery, Residual Learning, and Preparedness. Any resilience-building strategy must emphasise coordination of its component parts at each level of government and throughout each stage of the resilience cycle. Crisis responses are, by nature, highly localised and as such there is no one 'correct' response for all regions or communities. However, crises also come in various forms being slow evolutionary changes as is presented by climate change, relatively short duration but regularly reoccurring crises such as fire, flood, and cyclonic weather. There are biological crisis such as pandemics, pests and diseases. Crisis can also come in the form of economic shocks. Moreover, the timing, duration, and coincidence of crises are unpredictable and as has been experienced throughout 2020, more than one crisis can occur at any one point in time. Thus, National Strategies should be able to rapidly align relief efforts, including the funds and grants, for immediate application and/or distribution right down to the local level. Policy for National Strategy should emphasise the formation of networks of localised intermediary actors who can identify and match resource flows with community needs and in particular focus on the labour and other resource needs that may become critical to recovery. In terms of businesses, programs and initiatives should focus on re-building strategies that encourage a long-term view of recovery, shifting the business and community sectors to a stronger position for faster recovery at the time of the next exposure to crisis or coinciding crises.

We identify seven key policy recommendations:

1. Coordination of a national resilience strategy is of primary importance to achieve coordinated, rapid, and targeted responses to enhance RBE resilience.
2. National strategy coordination must be considered an ongoing and persistent task not just at the time of crisis.
3. RBE resilience can be strengthened by policies and programs targeting greater preparedness.
4. Policies across all levels of government should respect the local diversity of needs and build trust in the local intelligence of committed regional partners.
5. Greater capacity for regional connectedness during the times of crisis would significantly increase RBE resilience.
6. Simplify the multiplicity of disaster support and response programs, and thus ease the regulatory burden on the recovery processes.
7. There is a major national strategy gap identified at the residual learning phase during and after crisis and recovery. Policy is recommended that fills this void through a national resilience strategy coordination unit.

INTRODUCTION

OVERVIEW OF RESEARCH CONTEXT

This proposal has been developed in response to the Regional Australia Institute's (RAI) project brief based on the theme 'Disaster recovery and resilience, tools for regional Australia', which forms a part of the 2020 Intergovernmental Shared Inquiry Program.

Between January 2019 and April 2020, Australia experienced 62 natural disasters of varying type, intensity and duration (Department of Home Affairs, 2020). These disaster events included bushfires, floods, cyclones, storms and heavy rainfall, and affected each state and territory. It is estimated that natural disasters alone cost Australia an average of \$18.2 billion per year between 2006 and 2016, and that this figure will rise to \$39 billion annually by 2050, without including the potential impact of climate change (Deloitte, 2017; Handmer, et al., 2018). These figures may well be conservative, given the likely increase in both the intensity and frequency of extreme weather events due to climate change (Ladds, et al., 2017). Moreover, the COVID-19 pandemic struck around the time of commissioning this research and continues to have a profound effect on Australia's economy and regions. This is not only in terms of the financial impacts on businesses, but also the unprecedented strain being placed upon individual mental health and well-being (Lim et al., 2021; O'Sullivan et al., 2020).

With the increasing number of disaster events and the associated impacts on businesses and communities, there is the need for a sustained focus on building resilience, particularly in the vulnerable rural and regional areas. Small businesses, those that employ fewer than 20 people, account for the vast majority of Australian businesses, and these enterprises are more likely to be located in regional and rural areas than larger businesses (Australian Small Business and Family Enterprise Ombudsman, 2019; Nicholls & Orsmond, 2015). The current paper views these regional groupings of micro, small and family businesses as constituting and working within a regional business ecosystem (RBE). This dynamic framework of interaction between interdependent entities creates and exchanges value for communities (Radziwon & Bogers, 2018).

Small firms generally display a propensity towards entrepreneurship, not just in their flexibility, but also in their ability and willingness to incorporate changes brought about by external events in an innovative way (Williams & Vorley, 2014; Cowling, et al., 2014). When viewing entrepreneurship through the lens of the RBE, the focus is on how the various government, community and business actors within the ecosystem vary their behaviour or patterns of interaction in response to the changed environment. Indeed, entrepreneurial ecosystems have been identified as a critical means of creating resilient and innovative economies (Spigel, 2017). However, the factors that underpin the resilience of an RBE remain somewhat undefined. Further, the extent to which these factors affect the resilience of the broader community is also not clear. Thus, for this project, we first examine the factors that influence the resilience of businesses, and deepen the enquiry into how the interactions between government, community and businesses build resilience of both business and rural and regional communities.



OBJECTIVES

The primary objectives are threefold:

- 1) To determine what defines the resilience of a RBE's resources, capabilities and dynamic business network
- 2) To examine the factors and effects of a RBE resilience on regional business and community recovery
- 3) To identify policy recommendations for building RBE resilience in rural communities

PROJECT SCOPE

The research team specifically undertook four tasks:

- Desk research and an academic literature review to investigate the relationship between RBE resilience and community resilience. This review stage focussed on developing an enquiry framework to examine business resources and capabilities, dynamic business network, and the governance processes to inform the subsequent research steps distinguishing types of crisis events.
- Conducted field research on two Australian case study regions that have endured and recovered from different types of disaster events. The field work adopted the enquiry framework to examine more particularly how the Australian case regions compared and contrasted to the findings of the desk research and literature review. The field work included interviews with Government and regional authorities to understand their disaster recovery governance plans and support for local business.
- A quantitative study to survey a broad range of businesses in each region, collecting data on business resilience and the factors that influence resilience.
- Lastly, the findings from the three research components were synthesised to develop a policy framework to assist in developing RBE resilience governance model. The policy framework provides guidance to policymakers and regional leaders on the advantages of building RBE resilience, the barriers to business resilience in rural and regional communities, and the opportunities to build resilience capacity.

RESEARCH QUESTIONS

- 1) What are the key factors and effects of regional business ecosystem resilience that influence regional community recovery after disaster events?
- 2) How do Australian regional business ecosystems demonstrate resilience in response to disaster events and influence regional community recovery?
- 3) What strategies are suggested by the evidence that Governments and regional policy-makers

may implement to aid building regional business ecosystem resilience to influence rural community recovery after major disaster events?

PART 1: LITERATURE REVIEW

The literature review provides the foundation of this study informing the first research objective:

Objective 1: To determine what defines the resilience of a RBE's resources, capabilities and dynamic business network

To contextualise the regional vantage point of our study, the academic literature search focused on identifying issues of resilience generally in business ecosystems with particular reference to identifying various actors and the social, political, economic, and cultural elements within an ecosystem most relevant to our study. This report defines a business ecosystem as the dynamic framework of interaction between interdependent entities that creates and exchanges value for communities (Radziwon & Bogers, 2018). In particular, we sought to identify how recovery measures alter behaviour and objective patterns of the business economy that facilitate greater resilience or preparedness for future disasters.

Resilience, particularly in the case of business and entrepreneurship, continues to emerge as an important area of research and policy. However, both the conceptualisation and operationalisation of resilience lack homogeneity across studies, making the task of detecting and measuring its presence a challenge (Linnenluecke, 2017). In addition, resilience may be seen to manifest at various levels. At the individual level, resilience is generally linked to a selection of positive personality traits, such as self-efficacy, adaptability or optimism, as well as cumulative experience and knowledge (McNaughton & Gray, 2017). Business and management research tends to view resilience as the extent to which organisations are able to adapt their structures, strategies and models when faced with disruptive events: in this sense, resilience is as much a process as it is an outcome (van der Vegt, et al., 2015; Linnenluecke, 2017; Williams, et al., 2017). At a community level, resilience research is closely aligned with the concept of social capital, and with the importance of local networks and connections when recovering from adverse events (Aldrich & Meyer, 2015). Finally, resilience at the business ecosystem level appears to be as heterogenous and variegated as the range of business ecosystems themselves, adding further complexity to the task of identifying generalisable insights (Roundy, et al., 2017; Brown & Mason, 2017).

Rather than view resilience as existing in isolation at each of these various levels, the current project synthesises the range of themes in the academic literature that underpin the concept of business resilience into three broad areas: internal business factors; external relational factors; and resources. These elements are embodied within the social and economic factors internal and external to the business, the cultural aspects reflected in the diversity of the business ecosystem, and the political aspects related to the role of government at various levels. Figure 1 specifies the areas of focus for the study and the particular relationships that comprise the scope of the study. The following sections elaborate the three principal concepts comprising resilience for our study that emerge from the literature

review and become the focus for the regional business resilience policy framework.

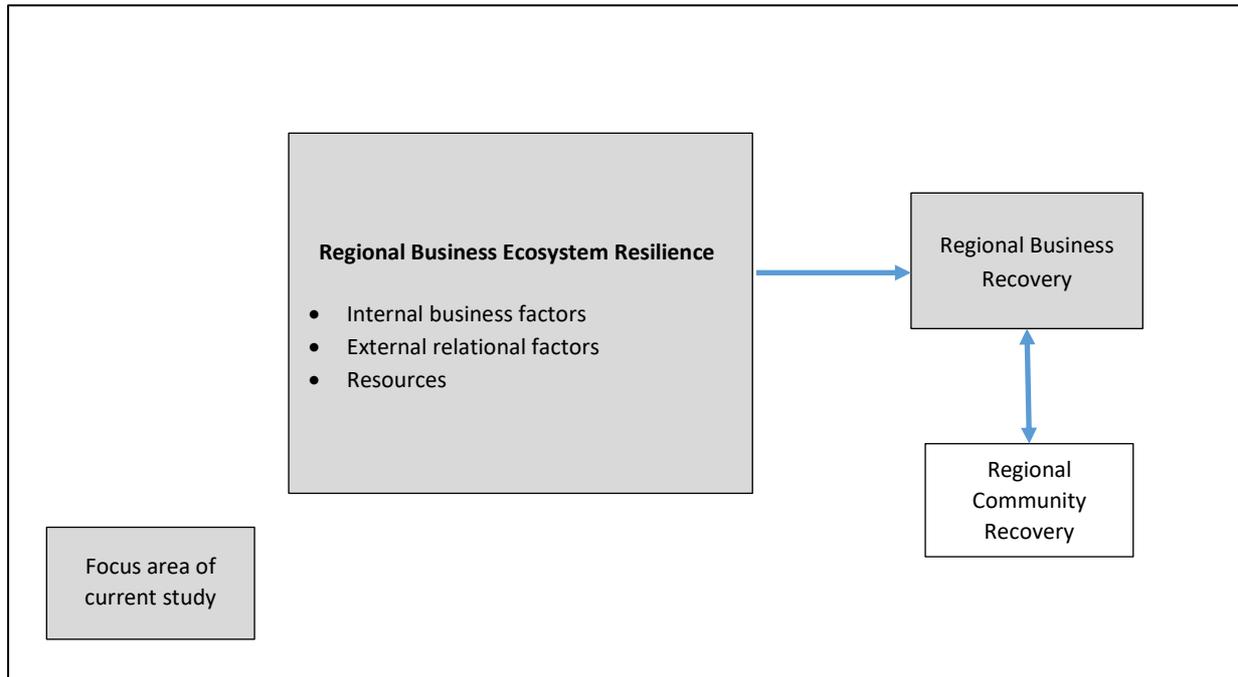


Figure 1: Conceptual components of the study indicating the focus areas and principal influences on the Regional Business Ecosystem's resilience and recovery, within the context of a disaster event

INTERNAL BUSINESS FACTORS: HUMAN CAPITAL, MINDSET AND DISASTER ENTREPRENEURSHIP

There is a considerable body of literature that frames resilience as a set of traits or perceptions that are inherent to a firm or to an individual. Innovation, optimism, self-belief and self-efficacy at the level of the individual entrepreneur are consistently claimed to promote broader business resilience in response to crises (Hmieleski, et al., 2015; Ayala & Manzano, 2014). It is thus postulated that a business owner that displays these characteristics will be more resilient in the face of crisis events. A study of responses to the Black Saturday bushfires in Australia suggests that a 'venture creation mindset' following natural disaster is positively associated with recovery and higher levels of post-disaster functioning: victims of bushfires whose response was to create a venture and generate value fared better than those who focussed on simply recovering assets or lobbying for government support (Williams & Shepherd, 2016). Further, a study into small business resilience in the aftermath of the 2011 London riots found that personal belief and "inner strength" were crucial factors in successfully rebuilding businesses, along with experience of the local area (Doern, 2016).

The significance of an entrepreneurial mindset is reflected throughout the existing resilience literature. It is argued that such a mindset promotes flexibility at the individual and small business level in response to adversity, building on innovation and the concept of adaptive capacity (Sabatino, 2016). Though resilience is frequently viewed in this literature as being a characteristic of a firm, there are multiple instances where the resilience of the firm is attributed directly to the entrepreneurial "mindset", "spirit",

or “thoughts and actions”, of the key figures and staff in these firms (Jaskiewicz, et al., 2015; Randall, et al., 2014; McInnis-Bowers, et al., 2017).

The emerging concept of disaster entrepreneurship further exemplifies the importance of the individual entrepreneur or firm in fostering resilience at a community level. Linnenleucke and McKnight (2017) frame disaster entrepreneurship as the actions taken by firms in attempt to create value in response to crises, such as natural disasters. This can occur across several key domains.

Firstly, organisations may seek to alter their roles in response to unexpected external crises: they may improvise and diversify. Examples of this type of response can be observed during the ongoing COVID-19 pandemic. For example, multiple distilleries and winemakers in South Australia changed their role from producing spirits or wines to producing hand sanitisers – a commodity that was in short supply at the commencement of the pandemic (Ziaziaris, 2020). Further, firms might expand their role to fill voids created by the disaster, especially where local government responses are insufficient (McKnight & Linnenleucke, 2019). This is particularly evident in situations where the firms have a depth of knowledge about the local community. Following the Black Saturday bushfires, businesses responded in a number of ways that aided in community recovery, such as in the repurposing of a local fleet of milk tankers to carry much-needed water to the community (Shepherd & Williams, 2014).

Indeed, a recent study into the resilience of rural businesses in South Australia found that firms are increasingly turning to diversification in order to insulate themselves against potential external threats and remain profitable (Steiner & Cleary, 2014). This diversification can occur by adding new ventures (such as a winery opening a bakery), by expanding the range and reach of products being provided (such as exploring export markets), or by merging or collaborating with other businesses (Steiner & Cleary, 2014). This phenomenon is not limited to an Australian context. Globally, regional firms increasingly perceive diversity as a vital pillar in maintaining revenue in the face of disasters or crises. Interestingly, this can be observed across a range of business types, from wineries and olive growers in Europe (Alonso & Bressan, 2015; Alonso, 2015), to retail and service in South America (Muñoz, et al., 2019) and the tourism industry in Indonesia (Dahles & Susilowati, 2015).

In addition to these reactive responses to crises, disaster entrepreneurship may utilise existing structures or roles post-disaster to continue creating value (Linnenleucke & McKnight, 2017). Maintaining business continuity is important for the disaster entrepreneur, and can frequently be observed following crisis events. Crucially, this continuation of function is often facilitated by firms drawing on local knowledge and local connections within the communities in order to keep their businesses operating (Chamlee-Wright & Storr, 2014). Small firms operating in an RBE, though generally less likely to have formalised business continuity plans (Herbane, 2010), are more closely linked to the local communities, and therefore have a deeper understanding of the community's needs post-disaster, which aids in resuming their commercial ventures (Shepherd & Williams, 2014). The additional benefits to overall community resilience – in terms of continued supply of much needed services or resources – are evident.

EXTERNAL RELATIONAL FACTORS: SOCIAL CAPITAL, NETWORKS AND COMMUNITY SUPPORT

The importance of social capital and social networks to entrepreneurship is well established in the literature. However, when viewing social capital through a post-disaster resilience lens, several important themes emerge. Firstly, and not unexpectedly, businesses tend to draw on social capital in order to access information, financial support, and materials following disasters, in the same way that other community actors would (Grube & Storr, 2018). Local civic organisations are often relied upon by businesses for immediate support. For example, small businesses in the UK tend to rely on family or community ties when dealing with a crisis, as there is a perception that more formal structures (such as government agencies) lack a sufficient understanding of the realities of regional business operation (Herbane, 2010). Similarly, Doern (2016) found a heavy reliance on family and local civic organisations among businesses recovering from riots, and the role of neighbourhood associations in supporting local firms after Hurricane Katrina in the US is well documented (Storr & Haeffele-Balch, 2012). Clearly, the social networks that exist in a community, and a firm's access to those networks, can inform and assist business resilience. Not only do they allow businesses to draw on informal systems of recovery, but they also allow for an entrepreneurial approach to this recovery, by identifying opportunities to expand or fill voids caused by the disaster (Martinelli, et al., 2018). It is thus postulated that higher levels of social capital and access to these networks is associated with higher business enterprise resilience.

Further, the extent to which a firm is embedded within a particular community may influence not only resilience, but also the types of entrepreneurial behaviour that emerge, which in turn affects community resilience. By being situated in a particular area, local firms are sensitive to the needs of the community, and are thus better placed to respond to those needs than external actors (Grube & Storr, 2018). Moreover, having a strong sense of place may play an important motivational role in terms of disaster recovery. While the concept of 'place attachment' is well-established as a concept in environmental psychology, it has relevance to entrepreneurial resilience: just as community members have emotional and personal ties to a place, so too do entrepreneurs and businesses (McKeever, et al., 2015). It has been suggested that this sense of attachment to place encourages renewed entrepreneurial activity following disasters, and that these activities may even go beyond mere economic recovery; indeed, many smaller firms view their continued operation, or re-opening, after crises as important to community well-being overall, and not just in terms of their own profits. (Storr, et al., 2015; Dahles & Susilowati, 2015). It has further been argued that localisation of businesses in a specific community is the most important factor in fostering resilience and inclusivity in local economic systems (Leach, 2013). Thus, having a sense of place and an attachment to a locality not only motivate business resilience and recovery, but can have an important impact on the resilience of the wider community.

Finally, Community Support has been linked to entrepreneurial preparedness in a number of papers. A recent study of regional communities under continuous threat of natural disaster found that emotional attachment to place, coupled with an accumulated experience of disaster and recovery, contribute to

increased levels of preparedness among businesses; in turn, this facilitates adaptive and innovative responses to crises (Muñoz, et al., 2019). Research conducted in earthquake-stricken communities in regional Turkey also found a positive relationship between occupancy tenure in a particular area coupled with previous disaster experience, and preparedness for future adverse events (Orhan, 2016). A similar finding was reported in a study into business resilience following the 2011 Christchurch earthquake: sensitivity to, and awareness of and integration with the local market, in tandem with preparedness, were identified as important factors influencing resilience (Tibay, et al., 2018). The extent to which businesses within an RBE have a sense of place and are well-integrated into the community can therefore also help develop resilience prior to disasters occurring.

RESOURCES: BUSINESS SUPPORT ENVIRONMENT AND THE ROLE OF GOVERNMENT

At the level of the RBE, the Business Support Environment and the support it offers to businesses in terms of fostering resilience is evident. This is, to a large extent, dependent on the mix of industries in a region, and the opportunities these provide for the sharing of ideas and practices, as well as opportunities for different firms to interact (Roundy, et al., 2017). This is especially relevant to resilience in response to natural disaster, where previous experience can inform both preparedness and recovery (Orhan, 2016). In addition, this accumulated 'stock' of knowledge in a certain region may foster more positive and innovative entrepreneurial responses to crises (Bishop, 2019). In a wide-ranging study of responses to natural disasters in the US, Dutta (2016) also argues that higher levels of associational diversity within a community improve resilience and recovery capacity. Thus, the extent to which businesses within an RBE are connected to, and support each other, is an important facet of resilience. Secondly, a diverse mix of industries provides some level of protection in terms of employment and growth, even when external shocks occur (Morris, et al., 2015). A recent study in Canada found a strong positive association between employment growth and diversity following a crisis event; in contrast, the same study found that high levels of specialisation had a negative impact on growth (Wang, et al., 2017). In essence, having a diverse mix of industries provides more varied employment opportunities to the community, meaning that it is not reliant on a single source; this in turn provides benefits to wider community resilience and well-being (Steiner & Atterton, 2014). Conversely, a region that is closely linked to one particular sector and its associated supply chains may struggle in response to unexpected and disruptive events (Morris, et al., 2015).

A broad consensus exists on the higher-order resilience policies that should be promoted at government levels (Hunt, 2016). In Australia, the National Disaster Risk Reduction Framework (NDRR) guides resilience policy in terms of natural disasters, and comprises four areas of priority: understanding disaster risk; accountable decision-making; enhanced investment; and governance, ownership and responsibility (Commonwealth of Australia, 2018). From these principles, a number of programs exist at the federal level designed to promote business resilience and resilient communities. In terms of communities, the Department for Social Security (2019) funds Strong and Resilient Community Activity Grants, which are intended to promote self-reliance and the capacity of small communities to face

challenges. An example of an entrepreneurial resilience initiative is the Strengthening Businesses programme developed by Business.gov.au. This provides disaster-affected firms with tailored advice on how to recover and re-establish their businesses in a more resilient way (Business.gov.au, 2020). At the state level, there are also a range of initiatives that are designed to increase resilience at a community level and for business. For example, the Get Ready Queensland initiative is an ongoing programme that provides funds for communities to build preparedness and resilience (Queensland Government, 2020). This programme has provided \$2 million in funding for such activities, each of which is chosen by local communities to meet local requirements. In addition, this initiative also provides resources for local businesses regarding disaster preparedness, with materials including business continuity templates and preparedness checklists. There is evidence that such initiatives, especially access to training and infrastructure assistance, are beneficial to businesses in regional and rural Australia (Steiner & Cleary, 2014).

However, a consensus on policy at the government level does not always result in implementation at a practical level. Indeed, the same study that found beneficial impacts of government assistance for rural business also identified challenges presented by other policies. For example, emissions taxes have had a costly impact on many regional businesses, necessitating significant expenditure, even accounting for associated grants (Steiner & Cleary, 2014). In a broader sense, the literature is mixed on the extent to which government institutions encourage or encumber entrepreneurial activity in the aftermath of crises. In general, it is acknowledged that the more proactive and flexible an institution is in response to a crisis, the more positive the economic outcomes (Williams & Vorley, 2014). Smallbone, et al. (2012) identify several mechanisms through which government agencies exhibited positive responses to external shocks, including the approval of small business packages, provision of free business advice services (similar to those referred to above), tax relief and expansion of credit schemes. However, this suite of policy options is available only to governments with sufficient budgetary flexibility, and only for as long as that flexibility remains viable in the absence of other support (Cowling, et al., 2012). Further, in economies where institutional flexibility is not an option, entrepreneurial activity and business resilience are severely hampered (Williams & Vorley, 2014).

Finally, disaster resilience and recovery policies inevitably beget tensions between government-led approaches and community-led approaches. Though community-led and locally endorsed leadership is generally accepted as an important factor in disaster recovery (Leadbeater, 2013; Archer, et al., 2015), and is acknowledged as such by the NDRR, it is not always clear that this is acknowledged in practice. In Australia and overseas, there is evidence that government agencies, in response to natural disasters, have a tendency to 'take over' recovery operations, with little regard for local knowledge, expertise or consideration of the impact on existing communal structures (Owen, 2018). Notably, Australia's National Strategy for Disaster Resilience (NSDR) (2011) acknowledges the importance of subsidiarity in relation to resilience planning and disaster response. It is suggested that governments should work in partnership with local communities, businesses and civic bodies both pre- and post-disasters; local community should retain its role as the primary leader in resilience operations.



Table 1: Summary of key factors and concepts within the RBE resilience framework

Factor	Description	Relationship to RBE resilience
Internal Business Factors		
Entrepreneurial Mindset	The traits, attitudes and perceptions inherent to a firm or individual.	<i>High levels of self-belief, self-efficacy and optimism are associated with greater innovation and flexibility in response to crisis events, which lead to higher levels of post-disaster functioning.</i>
Disaster Entrepreneurship	The propensity to create value during and after a crisis event, usually through expansion or diversification of existing functions.	<i>Through improvisation and diversification in response to crises, disaster entrepreneurs continue to create value for communities, and often fill important voids in community services.</i>
Human Capital	The skills, knowledge and industry experience of individuals within an enterprise.	<i>Demographic factors and business characteristics can influence the capacity to plan for, respond to, and recover from natural disasters.</i>
External Relational Factors		
Social Capital & Networks	The networks of relationships between entities within the RBE.	<i>Access to social and community support networks facilitates resilience before, during and after crisis events.</i>
Place Attachment	The affective bond between individuals/firms and a particular location.	<i>A sense of connection to a certain location leads to a greater understanding of that location's needs. Length of occupancy in a location is associated with increased preparedness for, and adaptation to, crisis events.</i>
Community Support	The extent to which a firm is actively involved in assisting and supporting the local community.	<i>Higher levels of integration with the community, for instance in the form of involvement in community projects or financial contributions, are expected to increase business resilience before and after disasters.</i>
Resources		
Business Support Environment	The institutions, funding and support available to the businesses within an RBE.	<i>Access to funding and the support of local business institutions (as well as sufficient knowledge of these support sources) is an important factor in strengthening business resilience.</i>
Government	Institutions, policies and programs and at the various levels of government that build resilience at the RBE level.	<i>Flexible, community-endorsed policies, particularly those which provide access to training and infrastructure, are beneficial to the resilience of businesses in rural and regional areas. Centrally managed programs often fail to recognise the reality of local community resilience and needs post-crisis.</i>

THE REGIONAL BUSINESS RESILIENCE ECOSYSTEM

Having identified the key factors and effects of RBE resilience, it is important to refine our understanding of resilience itself. Rather than a trait, resilience is conceptualised in this report as a cycle. This cyclical rendering is significant, as it emphasises the recurring and continuing nature both of disasters, and of RBE responses to those disasters. Variations of this cyclical model are common in risk and disaster management and are also in use throughout Australia (Rogers, 2011; Australian Council of Social Services, 2020; Queensland Government, 2020). Building on these models, the current project views the various elements, structures and functions of the RBE as existing at each phase of the cycle. The four phases are: response, recovery, residual learning, and preparedness (Figure 2).

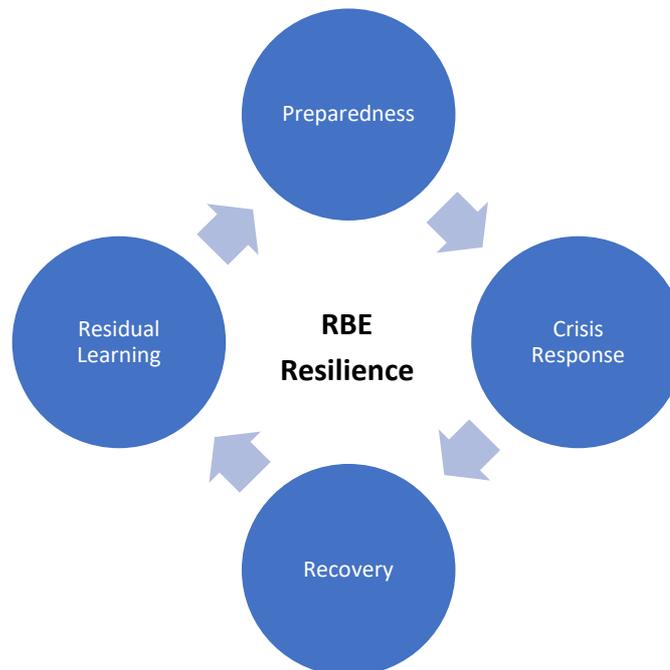


Figure 2: Regional Business Resilience Ecosystem

LITERATURE REVIEW SUMMARY

Resilience is a multi-faceted construct that exists simultaneously at various levels of an RBE. It is influenced by, and influences, a range of factors. Internal business factors encompass the characteristics of individual businesses and even individual entrepreneurs. It is exemplified in the concept of disaster entrepreneurship, the various responses entrepreneurs show to crises, and how these responses foster resilience. External relationship factors include social capital, networks and community. The extent to which a firm is integrated in a community can impact preparedness and resilience. The resources available to businesses within an RBE also affect resilience. These resources can be sourced from either the community and business support environment itself, or from the broader architecture of government. While consensus exists on the general principles of resilience at government level, the importance of community ties and community endorsement are key to successful resilience operations.

PART 2: REGIONAL CASE STUDIES: ENDURING AND RECOVERING FROM CRISIS EVENTS

Our field research aimed to examine two Australian case examples of disaster preparation, recovery and resilience that differed by:

- Types of disaster events
- Regional geography and state political systems

A review of the data and information available on various regions across Australia led to the selection of two regions: Bundaberg, Queensland, and Adelaide Hills, South Australia. Both regions have a history of natural disaster events (Appendices A and B) and meet the case selection criteria outlined above, as presented in Table 2.

Table 2: Comparison of case study regions

	Adelaide Hills	Bundaberg
Prevalent disaster events	Bushfire	Flood, cyclone, bushfire
Regional Geography	12km from major population centre (Adelaide)	360km from major population centre (Brisbane)
State political systems	Liberal government; bicameral legislature	Labour government; unicameral legislature

ADELAIDE HILLS, SOUTH AUSTRALIA: REGIONAL OVERVIEW

Adelaide Hills lies approximately 12km east of the city of Adelaide, and forms part of the Mount Lofty Ranges. The region is a popular visitor destination for Adelaide residents, due to its close proximity to the majority of Adelaideans, somewhat cooler summer daytime temperatures, and scenic landscapes. The Adelaide Hills features some of South Australia's best-known wildlife and conservation parks, numerous trails for walking, horse riding, bike riding and spectacular flora and fauna attracting both residents and visitors to the area. The sloping hills and valleys create microclimates that encourage the production of summer fruits (mainly apples, pears and cherries) alongside with the many vineyards and small holdings. Adelaide Hills is in important area of wine production, with a reputation for producing high-quality cooler climate wines. Horticulture, viticulture (along with downstream wine production) and tourism are key points of differentiation for the Adelaide Hills.



The labour force comprises a highly skilled with a relatively high proportion working in managerial and professional occupations, and with incomes increasingly skewed towards the highest income groups (Adelaide Hills Council, 2020).

DEMOGRAPHIC OVERVIEW

The population of the Adelaide Hills region is 39,977, representing 2.3% of South Australia's total population. This has remained relatively stable over the past 10 years

Median total income is \$51,706. This is approximately 7% greater than the median for South Australia and nationally. Unemployment in the region, at 4.4%, is lower than both the state and national levels.

Table 3: Selected demographic data – Adelaide Hills

	Adelaide Hills	SA	Australia
Median age	44	40	37
Median total income	\$51,706	\$48,354	\$48,360
Unemployment	4.4%	7.5%	6.9%

Source: ABS (2020a)

ECONOMIC OVERVIEW

As a region, the largest employing sectors in the Adelaide Hills are Education & Training; Retail; Healthcare & Social Assistance.

Table 4: Economic overview of Adelaide Hills Region

Local jobs:	11,222 (1.3% of the State's jobs)
Number of local businesses:	4,058
Employed residents:	19,510 (2.6% of the State's employed)

Sources: Adelaide Hills Council, 2020; ABS (2020a).

REGIONAL BUSINESS ECOSYSTEM OVERVIEW

Adelaide Hills' largest industry sectors by number of businesses are construction (17.1%), professional, Scientific and technical services (15.2%), and agriculture, forestry and fishing (13.9%). In terms of employment, the largest employing industries are healthcare and social assistance (15%) and education and training (11.7%). Figures 3 and 4 present a detailed breakdown of these industries.

Figure 3: Adelaide Hills Regional Businesses by Industry

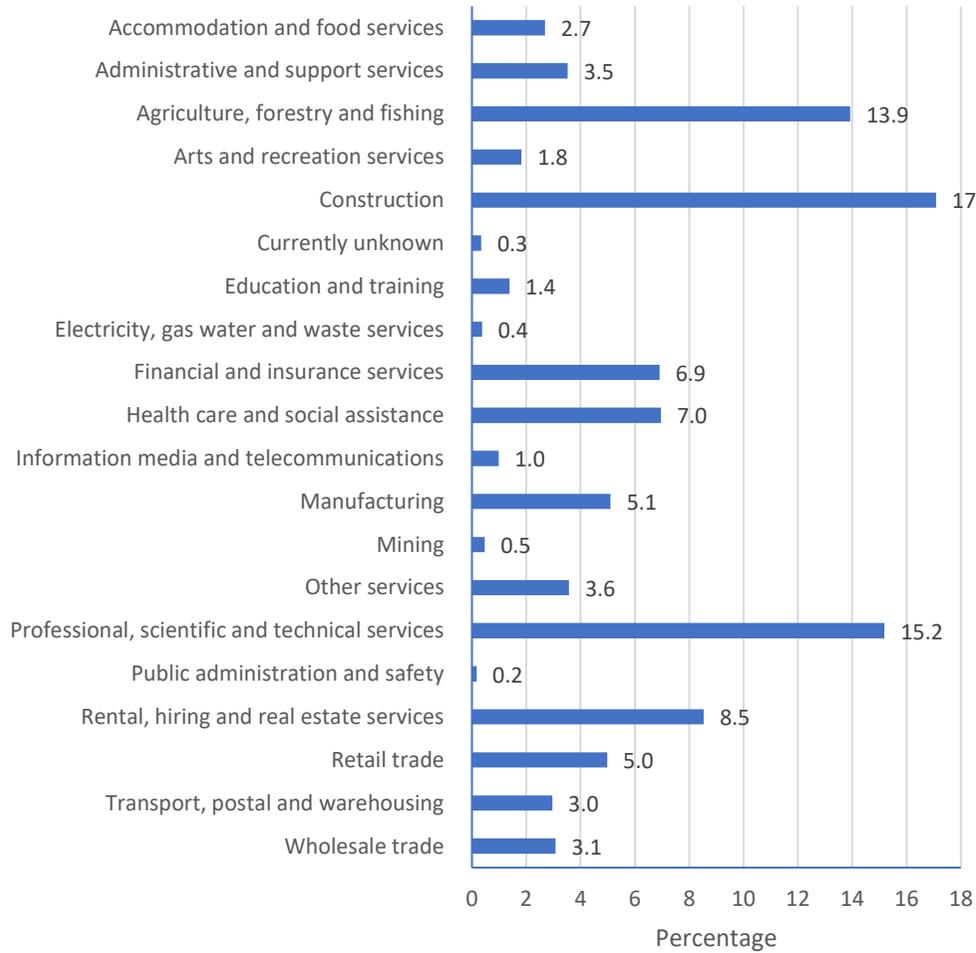
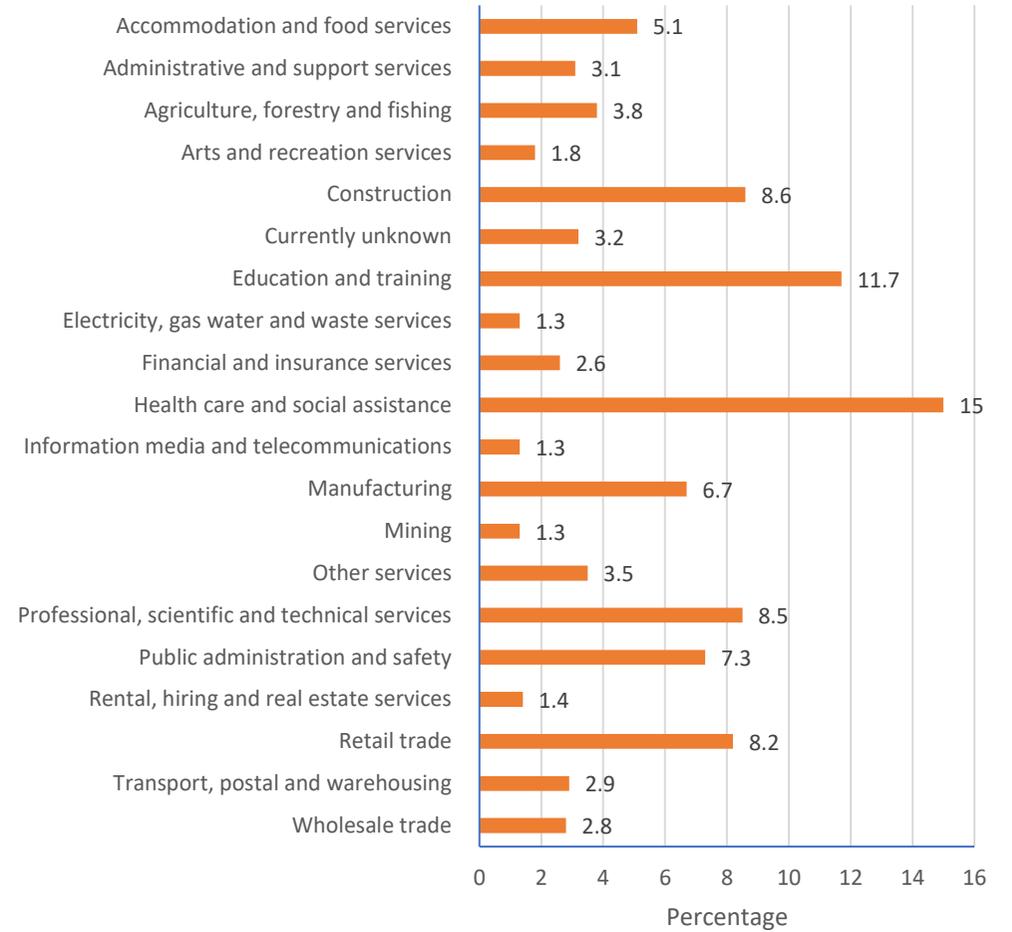


Figure 4: Adelaide Hills Regional Businesses by Employment



BUNDABERG, QUEENSLAND: REGIONAL OVERVIEW

Bundaberg is located approximately 360km north of Brisbane and is centred on the town of Bundaberg and its surrounding rural area. It is in the Wide Bay–Burnett region of Queensland and was created in 2008 from a merger of the City of Bundaberg with the Shires of Burnett, Isis and Kolan. The City of Bundaberg is the dominant commercial and industrial hub of the region and works in partnership with surrounding towns and rural areas to support strong growth and the diverse needs of a dynamic community.

The region comprises both heavy and light industries. Internationally recognised companies in the aero and avionic industries also operate there. The region is dependent to a large extent on the local sugar industry. Extensive sugar cane fields have been developed throughout the district coupled with value-adding operations, such as the milling and refinement of sugar, and the packaging and distribution operations located around the city. Most of the raw sugar is exported using a bulk terminal located on the Burnett River east of Bundaberg. Another major contributor to the region's economy is Bundaberg Distilling Co who exports Bundaberg Rum made from the sugar cane by-product molasses and Bundaberg Brewed Drinks. Bundaberg is also a hub for the seafood production and processing industry.

Commercial farming is evident in Bundaberg; particularly fruit and vegetables such as avocado, banana, bean, button squash, capsicum, chilli, citrus, cucumber, custard apple, egg fruit, honeydew melon, lychee, mango, passionfruit, potato, pumpkin, rockmelon, snow peas, stone fruit, sweet corn, sweet potato, tomato, watermelon, zucchini and macadamia nuts. Nevertheless, sugarcane remains an important industry to Bundaberg, and agriculture, fishing and forestry accounts for over \$1 billion of the region's economy. Health and aged care, along with tourism, are growing sectors.

Tourism in the area is largely attributed to the Bundaberg Rum Distillery, Great Barrier Reef, turtle nesting and coastal beaches (particularly Woodgate Beach). Childers has become a 'stopover' or rest stop for thousands of travellers as it is the halfway point between Brisbane and Rockhampton. Additionally, Bundaberg is an acknowledged centre for the international yachting fraternity. Located on the mouth of the Burnett River, Bundaberg Port has the highest customs clearance of recreational watercraft on the eastern seaboard coupled with a significant marina and substantial berthing and repair facilities.



DEMOGRAPHIC OVERVIEW

The population of Bundaberg is 95,856, accounting for 1.9% of Queensland's population. Similar to the Adelaide Hills, population has remained stable over the past 10 years, with a growth rate of approximately 1%.

Median total per annum income is \$39,699. This is 18.6% lower than the median for Queensland, and 17.9% lower than the national median. In contrast to the relatively low unemployment rate found in the Adelaide Hills, unemployment in Bundaberg is 10.5%, which is higher than the state and national levels.

Table 5: Selected demographic data – Bundaberg

	Bundaberg	QLD	Australia
Median age	46	37	37
Median total income	\$39,699	\$48,816	\$48,360
Unemployment	10.6%	7.7%	6.9%

Source: ABS (2020b)

ECONOMIC OVERVIEW

As a region, largest employing sectors in Bundaberg are Education & Training; Retail; Healthcare & Social Assistance.

Table 6: Economic overview of Bundaberg Region

Local jobs:	36,424 (1.4% of the State's jobs)
Number of local businesses:	6,545
Employed residents:	33,970

Source: ABS (2020b)

REGIONAL BUSINESS ECOSYSTEM OVERVIEW

Bundaberg's largest industry sectors by number of businesses are agriculture, forestry and fishing (21.4%), construction (16.5%), and rental, hiring and real estate (10.3%) In terms of employment, the largest employing industries are healthcare and social assistance (16.3%) and education and retail (11.4%). Figures 5 and 6 present a detailed breakdown of this data.

Figure 5: Bundaberg Regional Business by Industry

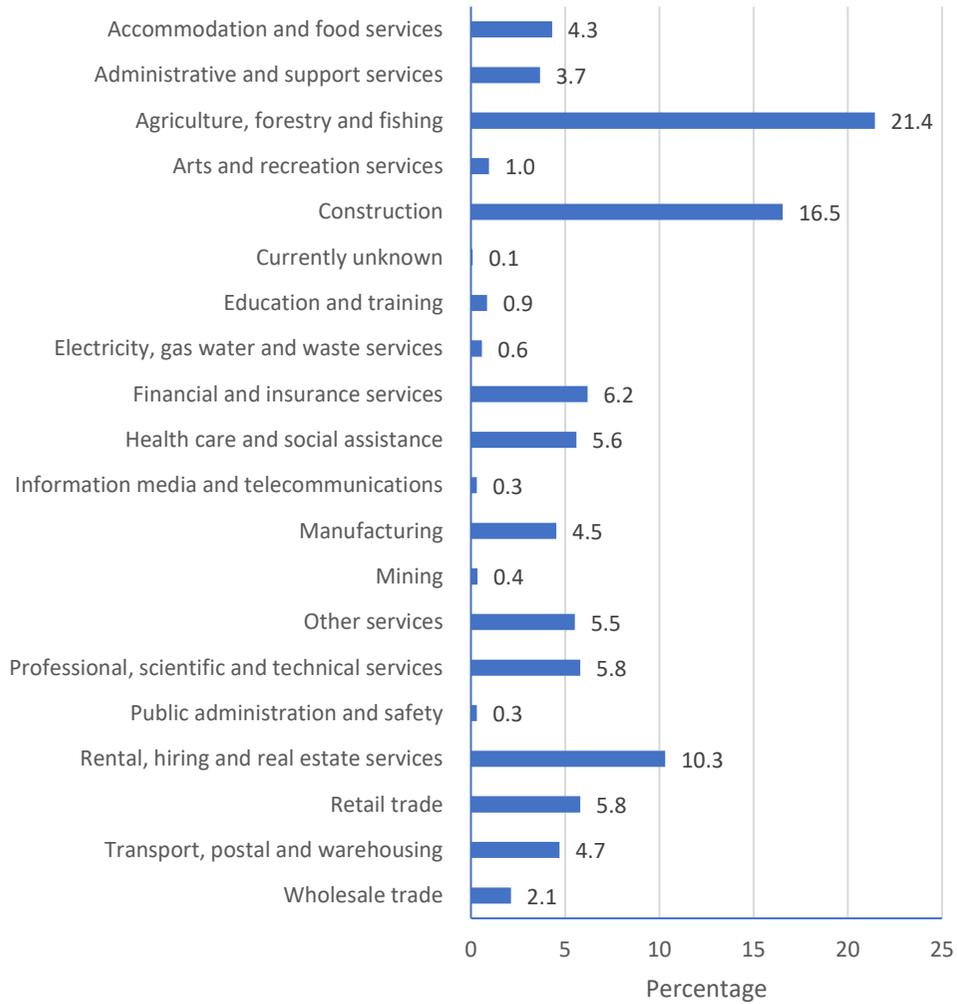
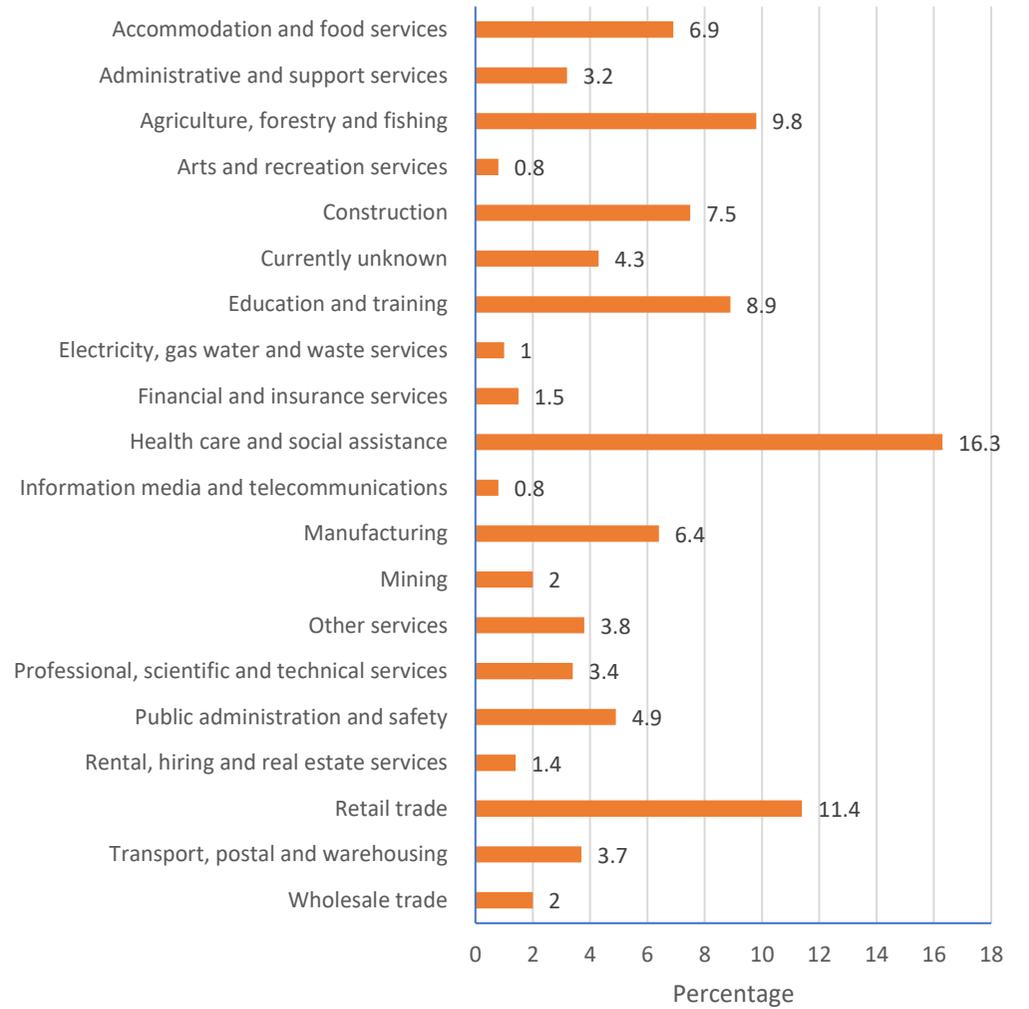


Figure 6: Bundaberg Regional Business by Employment



PART 3: QUALITATIVE FIELD RESEARCH

OVERVIEW

This section presents the findings of qualitative research on two Australian case study regions that have a history of endurance and recovery from different types of disaster events. Interviews were conducted with ten participants from the public sector and business/community organisations in the Adelaide Hills (SA) and Bundaberg (QLD) regions. These include officers from Federal Government, State government, Local Government, Regional councils, Chamber of Commerce and Industry Associations.

The field research aimed to examine the perceptions of business support networks to:

- Regional attitudes to disaster, business risk, and preparedness for recovery
- Adaptive and learned behaviours of business in facilitating faster recovery
- The strength of supportive peer-to-peer business networks that facilitate faster recovery
- The effect of business diversity on the regional and community recovery
- The role of various levels of Government and other non-business service providers

Data from this study informed the following research objectives:

Objective 2: To examine the factors and effects of a RBE resilience on regional business and community recovery

Objective 3: To identify policy recommendations for building RBE resilience in rural communities

SAMPLE AND METHOD

Participants were recruited at the recommendation of Regional Australia Institute (RAI) as well as through searching local relevant authorities' websites, and through interviewees' recommendations. A purposive sampling approach was used to ensure a cross-section of representatives from different spheres of influence (regional, local, state, federal). Informed consent was obtained from each participant prior to interview (Appendix C), and transcriptions were conducted post-interviews (Figure 7).



Figure 7: Qualitative research timeline

Interviews were conducted by at least two researchers via Zoom and took an average of 43 minutes per participant. An interview protocol was adopted to guide the process (Appendix D). During the interviews, supplementary questions were asked according to the information that emerged.

Participants were also encouraged to suggest other potential participants for interview.

In total, seven hours, eight minutes, and sixteen seconds of data were collected, and audio recorded. The interview data were anonymised and, to further preserve the anonymity of the interviewees, full demographic characteristics of the interviewees are not integrated into the present report. A summary of interviewees is presented in Table 7. At least one representative of a federal organisation, one representative of a state organisation, one representative of a municipal council and one representative or regional/local association were included in the sample.

Table 7: Location, type, sphere and duration of interviewees

	Type of organisation	Sphere	Duration
Adelaide Hills	Council	Regional	47'23
	Council	Regional	49'10
	Recovery Agency	Federal	41'40
	State organisation	State	49'06
	Chamber	Regional	33'06
Bundaberg	Council	Regional	26'55
	Council	Regional	54'44
	Chamber	Regional	44,26
	Chamber	Regional	44'00
	State organisation	State	37'46

FINDINGS

To identify policy recommendations for building RBE resilience in rural communities, we first themed the qualitative data into five areas: Policies, Programs, Activities, Initiatives and Challenges (Table 8).

POLICY

The qualitative coding looked to identify federal, state, and local government policy. These were defined as the principles and ideas of Government that outlined the objectives for program implementation by public administrators (Hill & Hupe, 2002, p.5). We objectively coded the qualitative data to identify the intersections with the issues of preparation for crises, immediate and short-term response to crisis, recovery from crises, and the residual learning acquired throughout crisis response and recovery. Our analysis revealed two key issues:

- Policy is directly difficult to identify as the principles and ideas do not filter down to the actors on the ground but rather the artefacts of policy, being programs, are those things the local regional communities deal with.
- The stability of governments, federal and state, at the time of the study provided no

circumstance to assess the variation in policy stances on the resultant programs

In light of these issues highlighted by the data, the qualitative data was instead coded to identify National Strategies. These largely relate to the institutional infrastructure, economic stimulus measures and collective responsibilities of all levels of government, the non-government sector including regional, local and industry associations, businesses and individuals with the objective of supporting the development of localised disaster resilience. Notwithstanding that a united focus and integrated approach to improving disaster resilience are considered as an effective approach (Commonwealth of Australia, 2011), the researchers are mindful of the current ambition of the Commonwealth Government to introduce legislation to act decisively in times of national crisis as well as the establishment of a new resilience, relief and recovery agency by 1 July 2021 (Commonwealth of Australia, 2020).

One aspect of National Strategies is the Commonwealth government's response to the Covid-19 pandemic through various economic stimulus measures, which are aimed at keeping Australians in employment and helping small and medium sized businesses to remain in business. The stimulus focuses on four main areas, namely: supporting business investment; providing cash flow assistance for SMEs to continue operations and retain their employees; targeted support for the most severely affected sectors, regions and communities; and household stimulus payments that benefit the wider economy.

Another aspect of National Strategies relates to the alleviation of financial burden which facilitates the early provision of support to disaster affected communities (particularly the Commonwealth Government's Natural Disaster Relief and Recovery Arrangements [NDRRA]). Funding is allocated to state governments to activate relief and recovery assistance measures as these institutions are best placed to identify the type and level of assistance to make available following a disaster, in accordance with their responsibility for disaster management.

A prominent area that emerged in the findings is the institutional role of agencies and centres that were set up primarily to facilitate and advocate the Commonwealth-supported recovery initiatives. These recovery centres and agencies situated at local municipalities are critical in supporting regional businesses and communities during times of disaster. Interviewees referred to various roles in these agencies (such as community resilience officer, community liaison officer, business recovery officer, community support officer and regional support officers) either funded by or seconded from State Government. They served as front line officers and as a first point of contact in providing advice, referrals and assistance with grant applications to individuals and businesses.

"I think that's probably the biggest strength of local government versus other levels of government. You know, we very heavily work with the community and for me, my community is obviously the business sector..."

"I'm sort of like the triage person. So, initially I would help them with the grant and then if they needed, financial counselling of my description I would then refer them off to Rural Business Support. And my department have now funded five people in that space across both rural and small businesses. And they're contracted from anywhere between 12 and 36 months."

Additionally, bushfire recovery in the past has been a piecemeal approach whereby official representatives assist where needed and thereafter leave the ownership to local municipalities or volunteer groups. However, in January 2020, the National Bushfire Recovery Agency was established by the Prime Minister to lead and coordinate the national response to rebuilding communities across states and regional areas affected by the 2019-20 bushfires.

“I think recovery has too long just been ‘Oh yeah, we come in, we do some stuff and then we leave it to the local, you know, either council or volunteer groups and then we walk away’... Well, some of those councils never have been funded to roll out recovery, to continue to roll out sort of spaces. You know, I mean, you look at the amount of chaos that was burnt and the recovery that has to go in that space. It’s a really small council with a really small, you know, funding sort of stuff. And people that work there, like they don’t have those skills necessarily to just take over from the state in the space at the moment.”

“And there was a real outcry from the citizens to sort of have a bit more of a coordinated effect of what was happening and how it was happening... And then of course the Royal commission has come in... for the citizens of Australia to see the three levels of government working together, to make sure that recovery is delivered where they need to be in a timely manner as they need to, for the people on the ground....”

PROGRAMS

Programs at the federal, state and local government level are defined as the implementation of policy that has an established set of guidelines, criteria, eligibility, defined stakeholders, allocated resources, sets of procedures or routines that are administered by Government or Government appointed stakeholders (Hill & Hupe, 2002, p.5). A number of programs were evident, and those that were identified or hinted at during interviews are outlined in Appendix E. The key findings that emerge in terms of programs are:

- **Programs at the regional level are experienced as a top down ‘shotgun’ approach** that spreads a large and inevitably complex array of programs that are not easily deciphered to the needs of the particular circumstances of those experiencing crisis. In the **region and at the local level it is a bottom up ‘rifle shot’ approach** to match specific needs with eligibility of the recipients.
- **Preparation is a distinct activity that aids in activation with the onset of a crisis situation.** The more experienced region (Bundaberg) evidenced a higher level of preparatory activity that aided faster activation and coordination in response to crisis.
- Encountering the extent of Covid-19 in the data suggested that **the scale of the crisis necessitates a more joined up approach to recovery across levels of government, community and business**, and across a broader scope of regional geography. Short term crisis events (e.g., fire and flood) have facilitated recovery efforts at the local level. The Covid-19 crisis, as a more sustained crisis, necessitated a far more inclusive recovery effort forcing

whole of government and community coordination and interaction. The extension to this is that longer and slower crisis events (e.g., climate change) demand a sustained holistic response. However, a slow and evolving crisis does not evoke the same 'shock' response efforts and immediacy of coordination. The learning here is that the different forms of crisis require different forms of planned policy intervention.

- **Acknowledging that crises vary in duration and impact does not mean that preparation activities differ in responsibility.** A key point to emerge from the data is that **stability in the systems that support crisis recovery are required.** Resilience varies by form of crisis that requires different responses although the responses vary by scale and scope. A more effective and stable resilience system (e.g., potentially a Resilience Commission) would hold a perennial position in crisis response facilitating coordination mechanisms to the increasing rates of crisis events and acknowledging differences in evolutionary, periodic natural, and health crisis events with appropriate mechanisms and plans tested and prepared for the inevitable but unpredictable impost of crisis events.
- **At the local level, coordination is the principal activity** assessing needs, matching recovery assistance, checking eligibility and increasing resilience capacity and literacy
- Grants (financial assistance) exist in two forms direct to business recipients and to the local government and agencies/associations who facilitate recovery.
- **Some recovery measures and resilience support crosses boundaries.** For example, mental health is consequentially experienced locally with responsibility falling to state health systems and federal funding. This increases the need for holistic coordination.
- Job Keeper as a specific program requires mentioning as both a social positive that boosted the recovery through stimulus and supported many disadvantaged by crisis and as a labour resource negative that replaced wages with social payments dis-incentives among some segments of the workforce and leaving business employers with labour shortages.

ACTIVITIES

In analysing the layers of crisis response and recovery, we next moved to identify particular activities that took place at the community level. These were distinguished from policy and programs by the fact that these were not Government-initiated or implemented policies and programs but rather a set of activities undertaken either independently or collaboratively by either business or socially connected community stakeholders. Activities were implemented and were ongoing as part of resilience measures institutionalised within a region and may have had formal rules and guidelines or informal and adaptive approaches to implementation. Primary observation from the data revealed that:

- **Coordination is the dominant activity by the community in three areas:** local assessment, guidance on recovery programs, and advice in recovery options.

- **Disaster management is increasingly becoming embedded in regular activities and events** led by various chambers of commerce and industry following the bushfires as a means for recovery and preparedness.
- The **diversity of industries benefited both regions** through re-distribution of employment opportunities in disaster-stricken sectors and alleviating labour shortages, particularly in agriculture.

INITIATIVES

We lastly coded for initiatives. These are special activities initiated and implemented in direct response to issues and circumstances that have arisen specifically in the face of the most recent crises events. These are not government policies or programs but independently inspired and directly enacted by businesses or socially connected members of the community. They may be short-term and limited life or may be intended to become a regular feature of the resilience routine in the community.

- The **diversification strategies, business model reinvention and new product offerings evident in both regions affirmed the theories of an entrepreneurial mindset and disaster entrepreneurship**. Various businesses had adapted and innovated to maintain revenue stream and cash flow. While some of them have placed market needs at the forefront of their diversification strategies, others had shifted from their usual product/service offering by reallocating resources to help provide the market with critical supplies. These are either short-term tactics or more fundamental strategic changes for the medium-term. It is anticipated that some businesses will later resume to their usual (or 'new normal') operations whilst others may flourish with new business models.
- **Community level support for small businesses in these regions reflect prosocial behaviour and RBE resilience**. Many small businesses were able to sustain their operations due to the ongoing patronage and spirit from local residents.

CHALLENGES AND ISSUES

Anything that did not fit within the policy, program, activity or initiative definitions were coded as 'other'. Upon review of these codes, it was apparent that these other points were in fact challenges and issues emerging from the data. They were further delineated into national challenges, regional challenges and business challenges.

NATIONAL CHALLENGES

The national challenges were by far the most apparent and are summarised as follows:

- The crisis response and recovery programs offered throughout the 2019/20 summer and 2020 Covid-19 period were abundant and confusing to rationalize for specific needs of local businesses.

- Local support **resources needed to assist and direct response and recovery programs were not anticipated**, which left many people and businesses struggling to identify support opportunities.
- The recovery and **relief grants and support were complicated by bureaucracy, over supply, short time frames, red tape and government formality** that made the well-intended programs to varying extents inaccessible to lay people.
- **Planned coordination is lacking but vital** to maximize resilience and minimize response and recovery times.
- Taking the pulse of the local/regional areas inflicted by crisis to learn of the needs would be beneficial to targeting local program responses.
- **A lack of national preparedness strategy resulted in hastily designed programs**, system inefficiencies, and community inequities.
- **Planning and coordination at a systems level is required** to prevent uncoordinated implementation of competing activities across multiple levels.
- Crisis response efforts confront incompatible or inconsistent systems across jurisdictions.
- It is not necessary to re-invent the wheel. Invest in what works without overburdening the response and recovery systems.
- The damaged mental health and emotional states are under appreciated in terms of the short- and long-term effects that impair the clarity of some individuals and businesses in negotiating the plethora of crisis response support programs.
- Clear and simple guidelines are needed around funding eligibility and flexibility is needed in program eligibility to respond to the diversity of humanitarian needs after a crisis event.

REGIONAL CHALLENGES

The regional challenges were fewer which reflects the reduced capacities of regions to band together in times of extreme needs. However, the following were identified:

- Variations in digital literacy mean that **not all businesses and community members are equally prepared or are able to be prepared** to take advantage of recovery and relief programs.
- **Business recovery has specific needs distinct to community recovery** although community recovery first and foremost underpins business recovery as individuals stabilize and assess their individual circumstances.
- **Meeting both regional self-reliance in times of crisis and global supply chain dependence in stable times will be a perennial problem**, but local business diversity and

flexibility facilitates self-reliance in times of crisis when access to global supply chains is restricted.

BUSINESS CHALLENGES

Our analysis revealed that the perception by community and business community stakeholders is that individual business resilience is generally strong although there were particular challenges as follows:

- The **preparedness of business for crisis is inconsistent across regions and sectors** as may be expected. Resilience is not just a matter for government, and businesses must play their part.
- **Crisis events can cause shifts in the business model of a firm** and, consequently, preparedness also means anticipating changes in resource and supply needs for the business and the consequences of any anticipated changes. Addressing this challenge is a coordination issue across business and regional responsibilities.

MAPPING RESILIENCE PHASES

Next, we used directed coding under each of these themes to identify data nodes that related to the phase of the Regional Business Ecosystem Resilience and the resilience contribution by the National Strategies, Programs, Activities, and Initiatives to the business resilience theoretical model. Below we present Table 8 that illustrates the number of coded contributions of the elements to the Regional Business Ecosystem composition of Internal Business, Social Network and Resources at each phase of the resilience cycle.

Table 8: Mapping data nodes to resilience elements, composition, and phase

	Preparedness			Crisis Response			Recovery			Residual Learning			Total
	Internal Business Factors	External Relational Factors	Resources	Internal Business Factors	External Relational Factors	Resources	Internal Business Factors	External Relational Factors	Resources	Internal Business Factors	External Relational Factors	Resources	
National Strategies			1		1	9	1	1	6			1	20
Programs	2	2	9	2	2	4	1	2	7	1	1	3	35
Activities	2	1	1			2	2	3	1				12
Initiatives	4			2	1		6	12	1	2			28
Challenges	2			31			23			7			64
Phase Totals	24			54			66			15			159

A RBE's preparedness for disaster events is underpinned by proactive strategies and initiatives to reduce the effects of undesired occurrences and contingencies. These require proactive and continuous efforts at the business, community and external environments.

The **role of state and local governments is in strengthening entrepreneurial skills and efficacy** during the most recent crises events (through the Commonwealth's Entrepreneurship program), including a platform facilitating digital competency and the move towards online retail. There was some evidence of funding channelled to local municipalities that supported awareness raising, rolling out a series of seminars and events to engage with businesses and regional communities pertaining to risk mitigation, bushfire preparedness and building resilience. The efforts from some local councils to increase community engagement and volunteering reflect a proactive approach for future disaster preparedness. On the whole, **the ability of RBEs to embrace a circumspect approach could be better achieved with a national disaster strategy** of well-designed programs and a coordinated approach.

Chambers of commerce and industry associations appeared to play a prominent role in organising various events at facilitating capability development, continuity planning and disaster preparedness in the regions. These were good sources of information dissemination in cultivating business preparedness. Additionally, the social capital networks formed in regional communities that have experienced and survived previous disasters engender information sharing and a proactive stance towards building circumspection for future disaster events.

"So there was a fire up here five years ago, and we learned a lot as a region and there is some institutional memory around that..."

"purely due to experience, you know, and knowledge and just the information sharing and what they've all, um, how they've grown as a result of their experiences...they would probably have learned skills that they didn't have previously that they could build upon. And maybe that would then improve the time for recovery...I think you can say bounce back quickly when you're talking disaster"

Similarly, the external relational factors comprising social capital and networks enabled businesses to share knowledge and strategies, promote the spread of best practices, and also form communities of practice.

The resilience of RBEs relies on the roles and coordination between various actors and the ability to collectively respond to crises. While the government's response to provide community relief and business support was considered swift, there were mixed views on its effectiveness, especially the filtering and allocation of funds to various levels of government. Local councils in particular, who engage directly with businesses and communities, advocate for additional support and resources to be able to assist at the grassroots level more effectively.

"The financial muscle is with the federal government, and to a lesser extent, the state government. So, I think councils need to be enabled by those tiers of government to get things

rolling out on the ground...the best thing that we can do is provide that one-on-one support. If its council, then we need to be resourced to be able to do that...You can have all the great intention and terrific strategies and policies, but if you don't have the people on the ground to deliver them, then it often don't come to much."

Some of the **programs required more coordinated processes and careful design** at various levels and across departments/regions, in conjunction with industry consultation to be more effectively understood and implemented. This is seen as one area for improvement.

"But I guess what I would say is that each agency or group doing their own thing is understandable, but it's also problematic because you have a barrage of different programs and initiatives that maybe overlap maybe you know, not quite fit what businesses want... And it's also a range of different departments with their own objectives going out and delivering things without speaking to each other about a coordinated approach to that delivery. ... it's just duplicated across state and federal levels that everyone's in their silos, developing these programs and with the best of intentions but they don't necessarily hit the mark. And then it just becomes a confusion for businesses."

"There's a really big mismatch between where government thinks they should be investing in and supporting...they're making policy decisions about how do they support businesses through disaster recovery and building resilience, I need to really think about people on the ground resources that are real people that can talk and can actually engage with businesses at a one-to-one level... the only way to get that trust is to have people on the ground that they can actually build trusted relationship with... I think there needs to be a genuine engagement with business in trying to determine what do they actually need to be able to recover from situations and bushfires and COVID and anything else... You need that collaboration across regions so that they do work together, but it's not happening..."

"...economic recovery group, with the COVID stuff was actually having business and industry sitting around the table to help co-design and come up with the responses, because we can't think of anything, everything, because we're not in that space.... And then them being able to have that discussion around the table, that then we're able to feed that up to make sure that we, you know, we're, co-designing anything that we do with the community as much as, as we can, like, you know, in that business side or in that community space."

The findings illustrate various instances of **adaptive and innovative entrepreneurial response to disaster management** as well as capitalising on the social capital in the regions. These initiatives potentially serve as a catalyst for positive change and resilience.

The **recovery of a RBE includes the infrastructural, environmental and economic elements, as well as social and mental wellbeing of communities**. The findings highlight that each region and community are unique, owing to their distinct history, social cohesion, past disaster experiences and challenges. Recovery will also differ in accordance with the response mechanisms and nature of the disaster itself, and that a diverse mix of industries can alleviate labour shortage and facilitate recovery.

“If we didn't have that diversity, if we were all with hospitality and tourism, then obviously we'll take a much, much bigger hit than it already has. Um, yes, would agree that diversity is essential not just in business. The more diversity you've got that I think the better off everyone is”

“The agriculture and the manufacturing sectors in the region have flourished over this time. So, when all tourism and hospitality shut down, there was a lot of tourism people that were out of work...So a lot of tourism and hospitality sector went across into were able to place them into jobs on farms.”

“Our tourism industry is quite heavily affected. And our farm industry was looking, and our agricultural industry was kind of saying, “Hey, we need people”. So, we had some of our tourism operators actually working with some of our farmers... So, there were those conversations happening between business.”

Effective recovery outcomes can be attained by ensuring that **strategies and programs align with business and community needs**. This warrants a coordinated, collaborative and flexible approach where the responsibility for disaster recovery is shared among all actors in the RBE as well as the various levels of government.

The learning outcomes from disaster events encompass the physical, institutional, social and economic means as well as the collective attributes of leadership and management to develop capacity and share best practices. The recent crisis events offer opportunities to discern institutional or legislative change. Resilience is further heightened when there is effective dialogue, resources and trust within the ecosystem coupled with the willingness and capacity to learn and apply the learnings for better preparedness in future crisis events.

“Well, our biggest thing is we want to know does the program that we run actually have an effect. Does it change your mindset? Does it get people to stop and pause and think, does it actually have, do we actually build that resilience...if we can have something that we're ... strongly aligned to measure, whether we're actually making a change, um, then we'll know exactly where some of those gaps are in that, in that space as to how we can actually help our community better...”

“I think from our perspective as a department, we need to really have a good look after the grants finish and really put some key learnings together and some structure around how we manage the next disaster and how we then go work with those other agencies. Yeah. I think that's really crucial”

“Disasters have genuinely been localised in terms of natural disaster. The COVID situation was very different....we kept continuing to rely on delivery of that disaster management recovery through the local governments. And can I just say, I think that's one of the huge limitations from my point of view. What has been the COVID recovery in that local governments have gone to their fallback position, if you like, in terms of how they manage disasters in the past, whereas it needed to be probably a little bit broader and more cooperative across local government boundaries...All I'm saying is that this was a totally different event and there was no accounting for that. So I think it was a learning curve for everybody. And we probably need to consider for future how we would better respond to disasters of the magnitude of COVID”

PART 4: QUANTITATIVE SURVEY OF BUSINESSES IN ADELAIDE HILLS AND BUNDABERG

OVERVIEW

This section presents the results of a quantitative study into the business structures and characteristics of the sample. Data was collected through telephone interviews with 200 business operators in Adelaide Hills, SA and Bundaberg, QLD to examine:

- Business characteristics and demographic information
- A resilience profile of regional businesses
- Factors that impact on building resilience
- Impact of COVID-19 and Future Outlook

Data from this study particularly informs the following research objectives:

Objective 2: to examine the factors and effects of a RBE resilience on regional business and community recovery

Objective 3: to identify policy recommendations for building RBE resilience in rural communities

SAMPLE

A broad range of enterprises from two specified regions were identified for the sample frame, including:

- Hospitality
- Tourism
- Professional services
- Retail
- Agriculture
- Food production

The sampling strategy across both the selected regions yielded a diverse cross section of industries across many ANZSIC codes. This diversity in businesses is a strength of our study in that a broad cross-section of industries are included. However, with respect to the ecosystem resilience it is to some extent an opportunity for further study. Given the diversity of businesses, the sample size of any individual industry sector is small, resulting in the circumstance that no meaningful conclusions can be drawn with respect to differences between sectors.

Telephone surveys were conducted in December 2020 with 200 randomly selected businesses. A questionnaire was developed with measurement scales adapted from the literature (Appendix F). The questionnaire collected information on:

- Demographics and business characteristics
- Access to support networks and resources
- Social capital and human capital
- Attachment to place and community
- Business resilience
- Impacts of COVID 19
- Performance outlook

METHOD

A survey was used to collect all quantitative data. Beyond demographic and business characteristics data, the survey was designed to capture resilience-related factors that were identified through the literature review. The structure and composition of these factors is shown in Figure 8.

Survey items were clustered by these construct measure and total \bar{x} scores were calculated. Scores on survey questions 13 to 17 ranged from 1 to 7, with a higher score corresponding to a higher level of that construct.

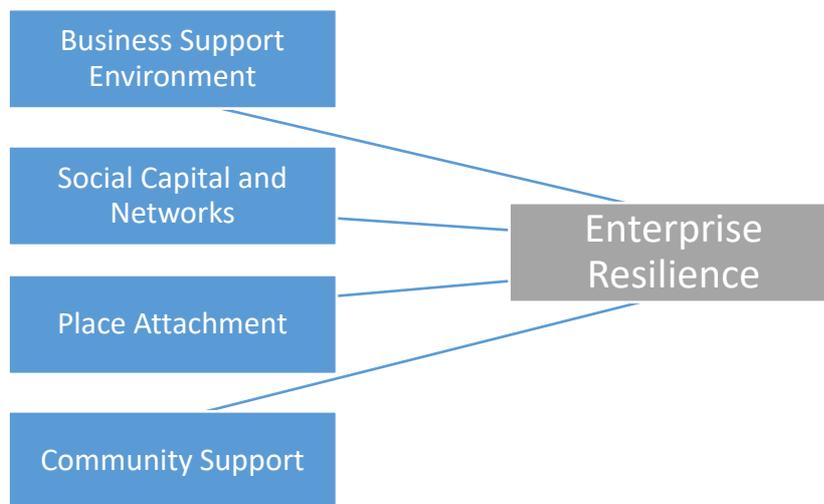


Figure 8: Predictive factors of enterprise resilience

As presented in Figure 9, we adopted a multi-dimensional construct of resilience and calculated a total score (“Enterprise Resilience”) based on businesses’ reported response capability (survey Q17.1 – Q17.5), resource integration (survey items Q17.6 – Q17.10) and entrepreneurial mindset (survey items Q17.11 – Q17.14).

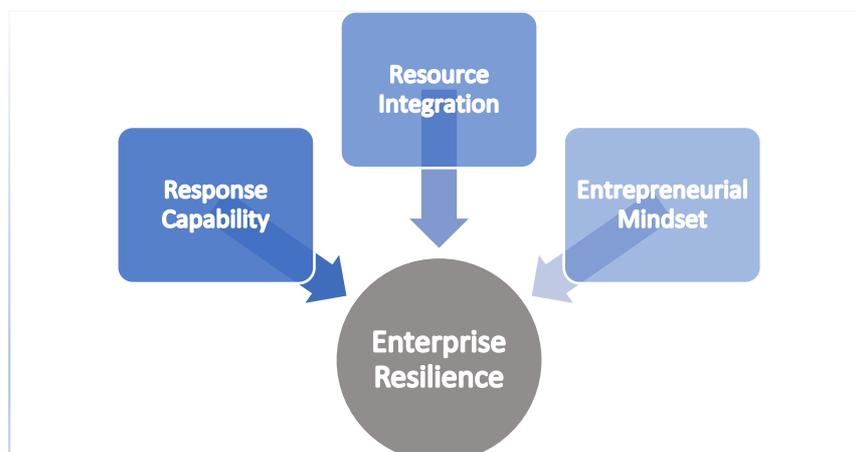


Figure 9: Multi-dimensional enterprise resilience construct

Analysis proceeded in three broad phases:

- 1) Descriptive data was generated regarding sample demographics, business characteristics and measures of human capital.
- 2) Businesses were segmented into High Resilience Enterprises (HREs) and Moderate/Low Resilience Enterprises (MLREs), and the high resilience businesses were profiled.
- 3) Inferential analyses were conducted to identify any significant differences within the sample, and to explore the relationship between Enterprise Resilience and other related variables that emerged from the literature review: Social Capital and Networks; Place attachment; Business Support Environment; Community Support.

RESULTS

PART 1: DEMOGRAPHICS, BUSINESS STRUCTURE & HUMAN CAPITAL

DEMOGRAPHIC INFORMATION

Demographic characteristics of respondents are presented in Table 12.

Data were collected from business in Adelaide Hills, SA and Bundaberg, Qld. Adelaide Hills accounted for 99 (49.5%) businesses and Bundaberg accounted for 101 (50.5%).

Overall, respondents were broadly equal in gender distribution, with Adelaide Hills having a slightly higher proportion of males (52.5%) to females (45.5%), and Bundaberg the reverse (54.5% females and 41% males).

In terms of age group, 73% of respondents were over the age of 36. This age group accounted for 77% of Adelaide Hills respondents and 69% of those from Bundaberg.

Table 9: Demographic characteristics of respondents

	Whole sample	Adelaide Hills	Bundaberg
Gender			
Female	100 (50%)	45 (45.5%)	55 (54.5%)
Male	93 (46.5%)	52 (52.5%)	41(40.6%)
Unknown	7 (3.5%)	2 (2%)	5 (5%)
Age			
18 – 25	16 (8%)	6 (6.1%)	10 (9.9%)
26 – 35	29 (14.5%)	13 (13.1%)	16 (15.8%)
36 – 45	49 (24.5%)	23 (23.2%)	26 (25.7%)
46 – 55	43 (21.5%)	29 (29.3%)	14 (13.9%)
56 and older	54 (27%)	24 (24.2%)	30 (29.7%)
Unknown	9 (4.5%)	4 (4%)	5 (5%)

BUSINESS CHARACTERISTICS

Business characteristics of responding enterprises are outlined in Table 13.

The median age of businesses across the entire sample was 17 years, with Adelaide Hills businesses being slightly older (20 years) on average than those in Bundaberg (19.36 years). Few major differences were observed in terms of business structure or size between regions.

Table 10: Business Characteristics

	Whole sample	Adelaide Hills	Bundaberg
Median Business age (years)	17.00	20.00	15.00
Business structure			
Sole trader	81 (40.5%)	42 (42.4%)	39 (38.6%)
Partnership	33 (16.5%)	17 (17.2%)	16 (15.8%)
Company/LLC	41 (20.5%)	24 (24.2%)	17 (16.8%)
Other	39 (19.5%)	14 (14.1%)	25 (24.8%)
Business size			
Micro* (<5 employees)	91 (45.5%)	46 (46.5%)	45 (44.6%)
Small (5-19 employees)	85 (42.5%)	42 (42.4%)	43 (42.6%)
Other (20+ employees)	23 (11.5%)	10 (10.1%)	13 (12.9%)
Family Business			
Yes	154 (77.0%)	82 (82.8%)	72 (71.3%)
No	46 (23.0%)	17 (17.2%)	29 (28.7%)

*Micro includes non-employed businesses

Small (including micro) businesses accounted for 88% of the total sample, and sole traders represented the largest single business structure (40.5%). These figures are similar across both locations. In terms of size, small businesses account for 97.7% of Australian businesses (see Table 14).

Table 11: Benchmarking of sample against national enterprise figures

	Sample	National
Business structure*		
Sole trader	40.5%	27.9%
Partnership	16.5%	10.4%
Company/LLC	20.5%	37.9%
Other	19.5%	23.6%
Business size†		
Small (0-19 employees)	88%	97.7%
Other (20+ employees)	11.5%	2.4%

*Source: [Australian Bureau of Statistics \(2020\)](#)

†Source: [Australian Small Business and Family Enterprise Ombudsman \(2019\)](#)

As noted, our sample included a diverse range of businesses across both regions. The Bundaberg sample displayed somewhat less diversity in range of businesses, with Accommodation and Food Services (27.7%) and Retail Trade (26.7%) comprising over half of the sample (Figure 10). Adelaide Hills businesses were more broadly distributed, with Professional, Scientific and Technical (17.2%) services the largest single division (Figure 11).

Figure 10: Sample Businesses by ANZSIC Division, Bundaberg

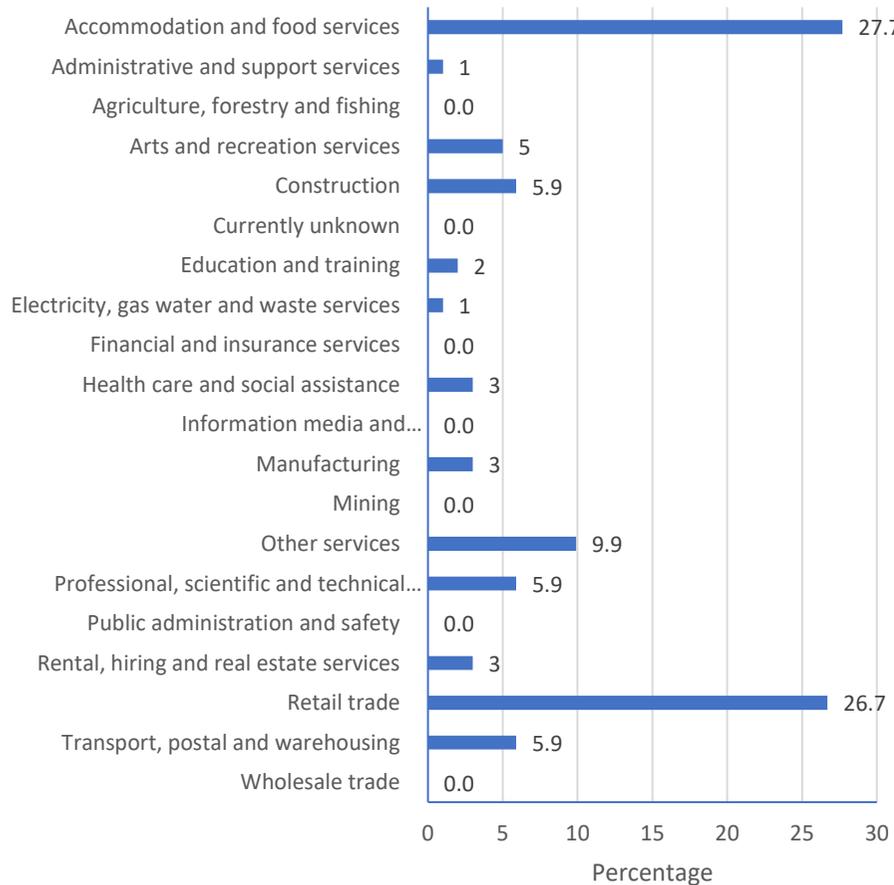
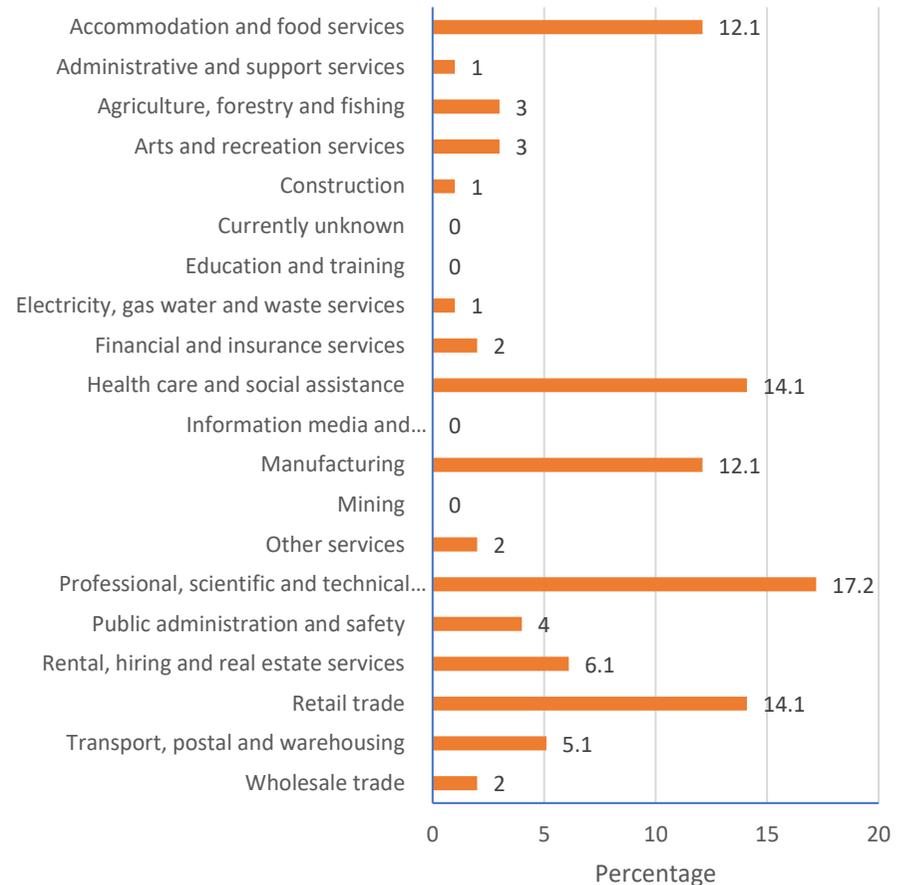


Figure 11: Sample Businesses by ANZSIC Division, Adelaide



HUMAN CAPITAL

The survey captured measures of human capital, including years of industry and current business experience, formal business qualifications and highest education levels attained. These findings are presented in Table 15.

Average years of industry experience was slightly greater in Adelaide Hills (18.95 years) compared to Bundaberg (16.05 years). However, current business experience was similar across locations, with the majority of respondents reporting at least 6 years. Notably, less than a quarter of respondents reported having any formal business qualifications. In terms of highest education level attained, Adelaide Hills respondents were more likely to have completed a bachelor's degree (29.3%) compared to respondents from Bundaberg (15.8%).

Table 12: Measures of human capital across Adelaide Hills and Bundaberg

	Whole sample	Adelaide Hills	Bundaberg
Industry Experience (years)	17.50 (11.92)	18.95 (12.24)	16.05 (11.48)
Current Business Experience			
< 1 year	13 (6.5%)	6 (6.1%)	7 (6.9%)
1 – 2 years	19 (9.5%)	4 (4.0%)	15 (14.9%)
3 – 5 years	42 (21%)	23 (23.2%)	19 (18.8%)
6 – 10 years	28 (14%)	14 (14.1%)	14 (13.9%)
> 10 years	97 (48.5%)	52 (52.5%)	45 (44.6%)
Formal business qualifications			
No	154 (77.0%)	75 (75.8%)	79 (78.2%)
Yes	46 (23.0%)	24 (24.2%)	22 (21.8%)
Highest Education Level			
Did not complete HS	27 (13%)	8 (8.1%)	19 (18.8%)
Completed High School	45 (22.5%)	16 (16.2%)	29 (28.7%)
Certificate/Diploma	73 (36.5%)	38 (38.4%)	35 (34.7%)
Bachelor's Degree	45 (22.5%)	29 (29.3%)	16 (15.8%)
Postgraduate Degree	10 (5.0%)	8 (8.1%)	2 (2.0%)

PART 2: PROFILING HIGH RESILIENCE ENTERPRISES

In order to explore the effects of resilience, total Enterprise Resilience score were used to segment businesses into High Resilience and Moderate/Low Resilience (Table 16).

Table 13: Cut-offs and group sizes of High and Moderate/Low Resilience businesses

Total Resilience Score	Level	N
0 – 5.5	‘Moderate/Low’ Resilience	100
> 5.5	‘High’ Resilience	90

In terms of human capital, few differences emerge between High Resilience Enterprises (HREs) and Moderate/Low Resilience Enterprises (MLREs). Mean industry experience for HREs was 17.77 years for HREs, compared to 17.53 years for MLREs. Current business experience was also similar, with most respondents having at least six years of experience (61.1% of HREs compared to 65% of MLREs). Possessions of formal business qualifications and highest level of education were similarly comparable (see Appendix G).

Business characteristics of high compared to moderate/low resilience businesses are presented in Appendix H. Overall, HREs were more likely to be found in Adelaide Hills (50 businesses) compared to Bundaberg (40 businesses). HREs were also slightly older than MLREs, with HRE mean age being 26.27 years compared to 20.36 years for MLREs. There were few differences in terms of business structure, but HREs were more likely to be larger than MLREs, and less likely to be family owned (Appendix H).

Table 17 presents the key characteristics of the HREs in our sample with regard the survey responses. These businesses score predictably highly on measures of Entrepreneurial Mindset, Resource Capability and Resource Integration. In terms of external factors, HREs score highest in measures of Place Attachments and Business Support environment. This suggests that HREs have a strong sense of connection to their locale, and that these locations provide a range of support services to businesses.

Table 14: Summary of survey scores for HREs

Factor	Score (M, SD)
Internal Business Factors	
Entrepreneurial Mindset	6.47 (0.50)
Response Capability	6.42 (0.45)
Resource Integration	5.57 (0.83)
External Relational Factors	
Social Capital & Networks	4.40 (1.03)
Business Support Environment	5.17 (1.03)
Place Attachment	6.06 (1.15)
Community Support	4.43 (1.54)

Scores on Social Capital are also higher than the sample mean scores, suggesting that HREs are well-connected to key stakeholders within the RBE (including other local businesses, local government, and industry associations). Further, higher levels of Community Support indicate the presence of more integration in the community, in the form of supporting local community projects and taking part in community events. Our profiling of regional Highly Resilient Enterprises has thus identified the following characteristics:

- Creative, flexible and adaptable in the face of a disaster event
- Aware of individual business priorities and capabilities prior to crises occurring
- Active participants in, and collaborators with, local organisations and industry groups that provide support during crises
- Able to access trusted networks of business support within their RBE that facilitate recovery and innovation post-crisis
- Emotionally attached to their regions

PART 3: RESILIENT ENTERPRISES AND THEIR FUTURE OUTLOOK

To further explore the effects of Enterprise Resilience, the quantitative survey collected data on future outlook. Businesses were asked to estimate performance over the coming two years in the following areas:

- Sales & revenue
- Market share
- Profitability
- Adoption of New Technology
- Number of Full-time Staff
- Number of Part-time Staff

Scores on this survey question ranged from 1 to 5, with a higher score corresponding to a more positive outlook (1 = decrease significantly, 5 = increase significantly). Mean scores were calculated for each item, and a total mean score (“Total Future Outlook”) was also calculated. These results are presented in Table 18.

Overall, HREs scored significantly higher on Total Future Outlook score ($p = .004$), indicating a more positive appraisal of future business performance. HREs also had a significantly more positive outlook than medium/low resilience enterprises on expected market share, future profitability and adoption of new technology.

Table 15: Summary of independent samples t-tests for differences between High Resilience vs. Moderate/Low Resilience Enterprises on Future Outlook measures

	<i>High Resilience</i>	<i>Moderate/Low Resilience</i>	<i>p</i>
Total Future Outlook Score	3.66 (0.53)	3.40 (0.65)	.004*
Sales & Revenue	3.76 (0.90)	3.55 (1.03)	.129
Market Share	3.63 (0.78)	3.34 (0.92)	.025*
Profitability	3.74 (0.92)	3.43 (1.08)	.038*
Adoption of New Technology	4.06 (1.02)	3.66 (0.99)	.008*
No. of full-time staff	3.30 (0.70)	3.11 (0.68)	.061
No. of part-time staff	3.46 (0.75)	3.33 (0.75)	.237

PART 4: EXPLORING PREDICTORS OF ENTERPRISE RESILIENCE

Drawing on the empirical research on enterprise resilience, and the factors that drive such resilience, this study examined the extent to which the overall resilience of regional businesses is influenced by the four predictive factors outlined below.

Table 16: Factors predicting Enterprise Resilience

Factor	Description	Survey item
Social Capital & Networks	<i>The strength of relationships between businesses and key stakeholders within the region</i>	Q.14
Place Attachment	<i>Business owners' emotional attachment to their town/region</i>	Q. 15
Business Support Environment	<i>The business support services that are accessible to businesses within a 1-hour drive from their location, and the level of trust and support between businesses within the RBE</i>	Q. 13
Community Support	<i>The extent to which businesses support local communities, events and projects.</i>	Q. 16

Total scores on the key survey variables are presented in Table 20. All scores range between 1 and 7, with a higher score representing a greater presence of that construct. For details of the constituent

items within each construct, refer to Appendix F.

Table 17: Summary of mean scores for each survey construct measure

Measure	Score M (SD)
Enterprise Resilience	5.36 (0.94)
Social Capital & Networks	3.86 (1.14)
Place Attachment	5.74 (1.34)
Business Support Environment	4.66 (1.19)
Community Support	4.02 (1.66)

DIFFERENCES ACROSS REGIONS

As data were collected from businesses from two distinct regions (Adelaide Hills and Bundaberg), we tested for any significant differences among these groups in regard to enterprise resilience, as well as the factors predicted to influence resilience outcomes. Independent samples t-tests revealed no significant differences on measures of resilience across location (Table 21).

Table 18: Differences in measures of resilience across Adelaide Hills and Bundaberg

Measure	Adelaide Hills	Bundaberg	<i>t</i>	<i>p</i>
Enterprise Resilience	5.42 (0.79)	5.30 (1.01)	-.854	.394
Social Capital & Networks	3.84 (1.11)	3.89 (1.17)	.358	.721
Place Attachment	5.70 (1.43)	5.78 (1.24)	.492	.623
Business Support Environment	4.68 (1.13)	4.64 (1.27)	-.234	.815
Community Support	4.02 (1.50)	4.02 (1.82)	.000	1.00

In order to investigate the association between Enterprise Resilience and predictor variables as identified in the literature review, a simple bivariate correlation matrix was created. As presented in Table 22, significant positive relationships were observed between total Enterprise Resilience and each of the variables, with varying degrees of magnitude. This was examined across the total sample.

Table 19: Survey construct measures and their correlations with Enterprise Resilience

Measure	<i>r</i>	<i>p</i>
Social Capital & Networks	.487	< .001
Place Attachment	.297	< .001
Business Support Environment	.523	< .001
Community Support	.345	< .001

Given the significant correlations observed above, further investigation of these constructs and their association with resilience was conducted through a series of linear regressions, with Enterprise Resilience score as the outcome of interest. Table 23 summarises this series of regressions. All four regressors significantly predicted Enterprise Resilience.

Table 20: Summary of linear regression series with Enterprise Resilience as criterion variable

Predictor variables	<i>r</i> ²	Standardized <i>β</i>	<i>p</i>
Social Capital & Networks	.237	.487	< .001
Place Attachment	.088	.297	< .001
Business Support Environment	.273	.523	< .001
Community Support	.119	.345	< .001

To gauge the predictive quality of these factors overall, an entry method multiple regression model was constructed containing each of the four predictor variables to explore their ability to predict Total Resilience (Figure 12).

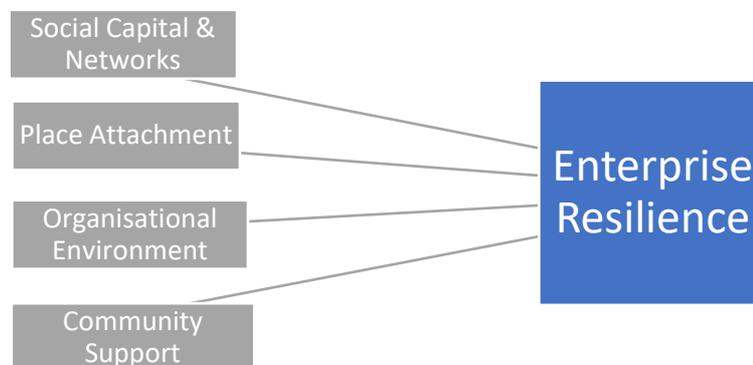


Figure 12: Multiple regression model of predictors and outcome variable

Overall, the model accounted for 37% of the variance observed in Total Resilience ($p < .001$). Notably, Business Support Environment, Social Capital and Networks, and Community Support were all

significant predictors within the model, but Place Attachment was not ($p = .063$).

Table 21: Summary of multiple regression for variables predicting Enterprise Resilience

Variable	Model	Standardised β	p
r^2	.367		< .001
Social Capital & Networks		.238	.004
Place Attachment		.125	.063
Business Support Environment		.289	< .001
Community Support		.173	.011

Finally, having identified Business Support Environment and Social Capital & Networks as the key predictors, we returned to our individual survey items to explore the main drivers of each score. These findings are presented in Tables 25 and 26. For Business Support Environment, highest mean scores were recorded for measures of existing social networks, level of trust among regional businesses, and the extent to which businesses support each other during crises. In terms of Social Capital & Networks, the strongest reported relationships were with local businesses / suppliers and with industry association groups.

Table 22: Business Support Environment survey item score

Factor	Score (M, SD)
Business Support Environment - 1= Strongly Disagree, 7 = Strongly Agree	
Funding is accessible to support businesses recover through crisis	4.57 (1.80)
There are many local institutions that provide or supply support to our business	3.79 (1.87)
Governments play an important role in facilitating networks that enable access to technology and innovation in our region	3.75 (1.90)
There are strong social networks among the businesses and employees in our region	5.07 (1.60)
There is a high level of trust among businesses in our regions	5.29 (1.5)
Other businesses in our region play an important role in supporting each other through crisis	5.59 (1.6)

Table 23: Social Capital & Networks by survey item score

Factor	Score (M, SD)
Social Capital & Network by survey item- 1 = very weak relationships, to 7 = very strong relationships	
Local businesses and suppliers	5.54 (1.56)
Local Government/ councils	3.53 (1.78)
Industry association groups	4.15 (1.81)
Business networking groups	3.83 (1.81)
Universities and research centres	2.33 (1.61)

SUMMARY AND DISCUSSION

Data collected through the quantitative survey was analysed to: 1) examine the factors and effects of a RBE resilience on regional community recovery, and 2) identify potential policy recommendations for building RBE resilience in rural and regional communities.

LACK OF REGIONAL VARIATION

Despite wide-ranging differences in the demographic and economic composition of our case study regions, and though the two regions have experienced quite different disaster events, our first key finding is that Enterprise Resilience was similar in both Adelaide Hills and Bundaberg. This supports the assertion that resilience is a complex and multi-faceted construct whose presence and strength are not dependent simply on geographical considerations or previous disaster experience. This is a useful finding, as it suggests that policies and programs may be utilised to build resilience, despite the differences found across Australian regions in terms of composition, geography and crisis type.

CHARACTERISTICS OF HIGHLY RESILIENT BUSINESSES

HREs are able to display creativity, flexibility and adaptability in the face of crises. They are also aware of, and able to access, support from a range of key stakeholders in their RBE, including industry and sector groups, local community institutions, and other businesses. HREs are active participants in both their RBE and in their local community, and they display a strong sense of affective attachment to their locales. Business ecosystem recovery from crises will likely be led largely by businesses that demonstrate high Enterprise Resilience. The opportunity therefore is to influence the internal business resilience measures of businesses in regions across the board in preparedness for the likely increase in crisis events. Policy at the local, state and federal level that aim to increase awareness of and strengthen these attributes will increase enterprise resilience of businesses and, by extension, the

communities within which they operate.

In terms of the effects of Enterprise Resilience, we observed that HREs are significantly more likely to view the future prospects of their businesses in a positive light, compared to MLREs. Specifically, HREs had a significantly more positive outlook than MLREs on future expected market share, future profitability and adoption of new technology.

PREDICTORS OF RESILIENCE

Our third key finding is that each of the predicted factors of resilience (Social Capital and Networks; Place Attachment; Business Support Environment; and Community Support) were all significantly associated with Enterprise Resilience. Further exploration revealed that, taken in total, these factors are a very good predictor of Enterprise Resilience, with two factors standing out: Social Capital and Networks and Business Support Environment. Community Support, while a significant predictor, accounts for a relatively minor proportion of variance, while 'Place Attachment' was not found to be significant as a contributor to a predictive model of Total Resilience to the businesses in a region.

In our survey, 'Business Support Environment' examined the support services that are available to businesses within their region or within a one-hour drive from their location (see Appendix F). Survey items collected data on services such as access to funding (item 13.1), the role of government in facilitating local support networks (item 13.3), the strength of existing business and employee social networks (item 13.4), and the extent to which businesses support each other through crises (item 13.6). Of these, **the presence of existing social networks, level of trust among regional businesses**, and the extent to which **businesses support each other during crises** were the highest scoring items in our survey. Facilitating the building of these specific factors should be the aim of local, state and federal stakeholders in order to increase RBE resilience.

'Social Capital and Networks' explored the strength of respondents' relationships with key stakeholders, including local businesses and suppliers; local government/councils; industry association groups; business networking groups; universities and research centres. The strongest relationships were observed between respondents and two key groups: **local businesses / suppliers** and **industry association groups**. In order to build and strengthen resilience, it is suggested that these relationships should be the priority for both policy initiatives and individual firms.

PART 5: CONCLUSIONS

This project has examined the factors and effects of resilience in regional business ecosystems.

The scope of work for this project involved desk research and a literature review, qualitative field research and the development and deployment of a quantitative survey. The project comprised:

- Desk research and a literature review to investigate the relationship between RBE resilience and community resilience
- Qualitative field research on two Australian case study regions that have endured and recovered from different types of disaster events. The field work adopts the enquiry framework to examine more particularly how the Australian case regions compare and contrast to the findings of the desk research and literature review.
- A quantitative survey designed for Australian conditions of the two case study regions to test the coherence of the findings of the qualitative field studies
- Development of a policy framework to assist in developing an RBE resilience governance model

The objective of the study was to gain empirical evidence to address the following research questions:

- 1) What are the key factors and effects of regional business ecosystem resilience that influence regional community recovery after disaster events?
- 2) How do Australian regional business ecosystems demonstrate resilience in response to disaster events and influence regional community recovery?
- 3) What strategies are suggested by the evidence that Governments and regional policy-makers may implement to aid building regional business ecosystem resilience to influence rural community recovery after major disaster events?

Key findings in relation to these questions are presented below.

RESEARCH QUESTION 1: WHAT ARE THE KEY FACTORS AND EFFECTS OF REGIONAL BUSINESS ECOSYSTEM RESILIENCE THAT INFLUENCE REGIONAL COMMUNITY RECOVERY AFTER DISASTER EVENTS?

Our research adopted a stance informed by literature to respond to this first question. We distilled the following four regional business ecosystem factors that underpin regional business recovery that consequently supports regional community recovery. These were:

- Internal business factors that facilitate adaptability, responsiveness and flexibility of the business sector that enable fast business recovery.
- External relational factors that make connectedness in times of crisis easier. The willingness to assist others, the openness to share resources, the sense of oneness in times of crisis is strengthened by strong relationships.
- Business diversity within a region is beneficial when inter-regional, national or international supply chains are disrupted whereby alternate suppliers or substitutions are made available within a region. Further, the diversity influences employment, sales, and flow of money in a region that can buoy a regional economy. While some businesses may be hit hard others may thrive in crisis keeping at least some sectors of the community in employment and with money to spend that aids the recovery of other businesses in the region.
- Government support programs and interventions were often found important to fill gaps and assist businesses to re-build, re-connect, or in some cases enable families and members of the regional community to simply survive providing hope and encouragement that lives, and livelihoods can be re-built.

Both our interview and survey data find that within the regions the internal business factors appear relatively strong. That is, businesses within a region demonstrate entrepreneurial capacities of adaptability, flexibility, and responsiveness in broad terms. There is clear evidence of businesses switching product lines, changing market channels, and adapting to resource constraints imposed by the crisis and finding alternatives. However, resilience is not consistent across all businesses and our analysis of the survey data reveals that about one half of the businesses exhibit higher total resilience scores than the rest. The implication of this finding is that the business ecosystem recovery will likely be led largely by businesses that demonstrate high Total Resilience. The opportunity therefore is to influence the internal business resilience measures of businesses in regions across the board in preparedness for the likely increase in crisis events.

With respect to the external relational factors, two key factors stand out: 'Social Capital and Networks' and 'Business Support Environment'. For Business Support Environment, we find that **the presence of existing social networks, level of trust among regional businesses**, and the extent to which **businesses support each other during crises** to be fundamental elements of resilience. In terms of 'Social Capital and Networks', resilience is driven by strong relationships with other **local businesses**

/ suppliers and industry association groups.

RESEARCH QUESTION 2: HOW DO AUSTRALIAN REGIONAL BUSINESS ECOSYSTEMS DEMONSTRATE RESILIENCE IN RESPONSE TO DISASTER EVENTS AND INFLUENCE REGIONAL COMMUNITY RECOVERY?

In direct response to crisis and the later stage recovery, **resilient businesses are likely to exhibit high adaptability in response to local needs and crisis**. Examples include using brewing facilities to produce hand sanitiser, adjusting to virtual office environments, re-deployment of staff to new tasks, and re-deploying assets to new uses. The proactive and adaptive stance of high resilient businesses greatly aids recovery of a local economy as they react quickly to local needs and amend their business practice to cater for the shifts in local demand patterns. For example, creating partnering arrangements to service local food delivery and pick-up or creating drive-through pick-up and implementing online ordering and digital commerce options to support locals. These initiatives assist not only the businesses to recover but also the community to recover connectedness, deal with crisis, and be supported by the positive spill-over effects of activity that re-establishes a degree of community optimism to see through a crisis. Overall, HREs create optimism through their far more positive views of the future growth in market share, profitability, and greater adoption of technology.

While businesses are critical to an RBE, **other actors contribute to the response to crisis and recovery efforts**. In particular we isolated the business and community set of actors such as **chambers of commerce and industry or business associations**. These actors also play a role in the RBE and regional community resilience through such efforts as organising and disseminating information, using local community knowledge to identify specific needs and assisting those who are in shock from loss to re-gain their feet and re-focus on the recovery effort. However, while these actors play a vital role in crisis and recovery, they are also typically under resourced and facing the challenges of triage with respect to identifying the most needy, gathering the right intelligence, and providing direct support to the business community.

Another segment of the RBE is the **local and to some extent state government agencies**. Local government and business associations tend to overlap when looking after the local crisis needs and recovery efforts. However, there are also specific program activities initiated and maintained by the local government that contribute to the RBE resilience. These include a **coordination role between government actors** and arranging community network meetings, the development of communication means such as Disaster Dashboards whereby locals can monitor threats, and funding of apps that allow local business actors to promote needs and locate workers or other resources. Further, the **local councils can respond to broader business needs** and manage business improvement and diversity workshops to aid the re-positioning of affected businesses, responding to local demands.

Lastly, RBEs are also influenced **by National Strategies of the federal government and the activities of state government actors**. At these levels the over-whelming support function is facilitating resource needs by either providing funding or labour market support and knowledge

programs. Programs such as the 'Entrepreneur' program play both a pre-emptive role by skilling businesses in resilience and preparing them for crisis points. While programs like 'Job Keeper' and 'Job Seeker' play a role in facilitating cash and labour resources in the local region's economy. Governments also provide 'one off' grants and amend regulations, tariffs, or taxes during times of crises that influence the ability of businesses to cope and recover. However, there is a major caveat observed for these programs whereby **hastily adopted strategies can have unintended consequences**, such as reducing available labour in certain regions by making paid work less desirable than social benefit options (e.g., higher payments on Job Seeker). It was also observed that the formality of government expectations and short grant windows raised stress levels when those experiencing crisis least needed it. It was overwhelmingly apparent that a high priority should be placed on building far greater coordination between the levels of government along with balancing the expectations and needs between those making grant and program decisions and those on the ground in local regions.

RESEARCH QUESTION 3: WHAT STRATEGIES ARE SUGGESTED BY THE EVIDENCE THAT GOVERNMENTS AND REGIONAL POLICY-MAKERS MAY IMPLEMENT TO AID BUILDING REGIONAL BUSINESS ECOSYSTEM RESILIENCE TO INFLUENCE RURAL COMMUNITY RECOVERY AFTER MAJOR DISASTER EVENTS?

In line with the approach presented in our literature review, we outline suggested resilience-building policy strategies through the lens of the Regional Business Resilience Ecosystem cycle. One of the key implications of our findings is that **any strategy aiming to build resilience must emphasise alignment and coordination of its component parts at each level of government and throughout each stage of the resilience cycle**. Presented in Figure 13 is a policy framework that suggests National Strategies and Programs to build Social Networks (SN) and bolster Resources (R) as the two most critical inputs into boosting RBE resilience.

CRISIS RESPONSE PHASE

Crisis responses include those that assist people, businesses and communities to regain their footing, come to terms with loss, deal with grief, and gain a grip on the circumstances from whence they can then re-build to recover. The time duration of crisis response in some cases may be hours and in other cases it may be weeks, months, or years. In the worst cases, the response may never set the crisis respondent onto the road of recovery. The heterogeneity of actors means **there is no one or fixed crisis response** but much of the crisis response needs to cater to the diversity of effects and the mental, emotional and physical preparedness for recovery. **Crisis response is very localised and human resource intensive**.

At the point of crisis impact, from a policy standpoint, the **National Strategy needs to rapidly align the relief efforts, including the funds and grants, for immediate application and/or distribution**. Most critical at this point is that the **application processes are coordinated among the departments and levels of government and that the processes themselves are relatively simple and**

straightforward. The complexity of crisis response funding processes invariably adds layers of stress. This can not only delay distribution of funds to where they are urgently needed but also the respondent's journey to readiness for crisis recovery as they deal with setbacks and the complexity slowing the mental capacity of respondents to re-focus on the task of re-building lives and businesses.

Although this will be discussed further, the **role of preparation at this point cannot be understated.** The program targets should account for how regional communities quickly step up and enact a community governance model. **A well-prepared regional community will have various stakeholder plans** in place and/or know how to access them and enact them. Recovering stability is of high importance to the business community and, while not entirely predictable, the community governance model and the coordination plans with government should seek to identify and react to labour or resource shortages. Notably, this cannot be entirely a government responsibility, and coordination includes awareness of and access to the communities and businesses close to the impact point of crisis. Policy that adopts a programs view will be developed to enable, complement, and extend the community activities and initiatives that are best placed to respond in shorter turn-around times with greater community needs awareness and strong social connections.

RECOVERY PHASE

The recovery phase is where the most effort is evidenced through National Strategies and Programs. This phase is invariably also the most transparent with respect to policy and program impact. Crisis recovery attracts close scrutiny from the media and social attention, which also heightens for governments the need to be seen to be doing something. The point at which crisis victims enter the recovery phase will again vary depending upon how quickly the crisis respondents re-gain their footing and commence their focus on re-building their lives and businesses.

While social networks are largely associated with the community level of activity and initiatives, the role of social networks within and across government, down to and up from community, are also vitally important. So too are policy structures and program designs that enable fast enactment of community connections. Through those social connections should flow resources of recovery funds directed by close connectedness to regional level recovery planning. **Policy for National Strategy should emphasise the formation of a network of localised intermediary actors** who can identify and match resource flows with community needs and in particular focus on the labour and other resource needs that may become critical to recovery.

At the program level of activity, **the multi-level governmental social network should enact and engage with local levels of cross-sectoral dialogue.** Primarily this is to identify the labour and other resource needs and the impacts of crisis and subsequent decisions taken throughout crisis on the stability of resources for businesses. **Programs for businesses should focus on the re-building strategies that add diversity strength, capitalise on new and renewal opportunities and the forecasting of how changed conditions will affect the business in the near and long term.** Of critical importance and perhaps the most obvious policy and program implementation is the re-building

of affected infrastructure or the planning of new infrastructure that the changed business conditions may demand in the near or long-term. While businesses and indeed communities may take a view of the short-term in recovery, **programs at this point should encourage a long-term view of recovery** that stands the business and community sectors in a stronger position for faster recovery at the time of the next exposure to crisis.

RESIDUAL LEARNING PHASE

At the expense of preparedness for crisis, the **residual learning phase of the resilience cycle revealed a considerable void**. Perhaps this is because the sampling of regions and respondents to the qualitative interviews restricted the number of viewpoints. However, it is also observed that linear models of resilience tend to suggest that there is a start and end point to resilience. Our data suggests this is not the case and at the more localised levels of programs in local councils, a number of programs tend to capture and implement learning post-disaster events. This activity plays a vital role in affecting business and community preparedness. Localised programs deliberately seek to embed local councils in business and community activity to better enable crisis management and to direct and capture reflective learnings. **Local programs are likely more sensitive to the need for learning**. Consequently, resources are deployed to build and adopt guiding frameworks and to deepen the areas of enquiry to question what and how things may be done better. Adopting similar learning programs at a National Strategy level will have particular relevance to deal with the often geographical, cognitive and emotional distances between policymakers and the real and lived experience of crisis participants. **A policy framework for National Strategy is deficient if efforts and resources are not dedicated to building the learning** that can contribute to preparedness that ultimately closes the loop to strengthen regional business resilience.

PREPAREDNESS PHASE

From a policy standpoint, the **National Strategy should include providing resources, in the form of funding and/or human capability, to enable the building of localised social networks** that are critical to the response and recovery efforts post-crisis. Without question the pace and urgency of a National Strategy at the preparedness phase is significantly reduced. However, it is equally true that at a National level, disasters and crises are more perennial and re-current if not by type or place but by frequency, with the added variance of form of crisis and the diversity of places that experience crisis. **A policy to provide National Strategy should include the establishment of a dedicated unit that is designed to attend to the full cycle of resilience** and support local regions with learning, resources, and the building of multi-level and multi-sectoral networks. These networks should reach into communities regularly responding to the priorities equally proportioned around likelihood of crisis events, national/state economic significance and the capacity of regional and local communities to self-organise and respond.

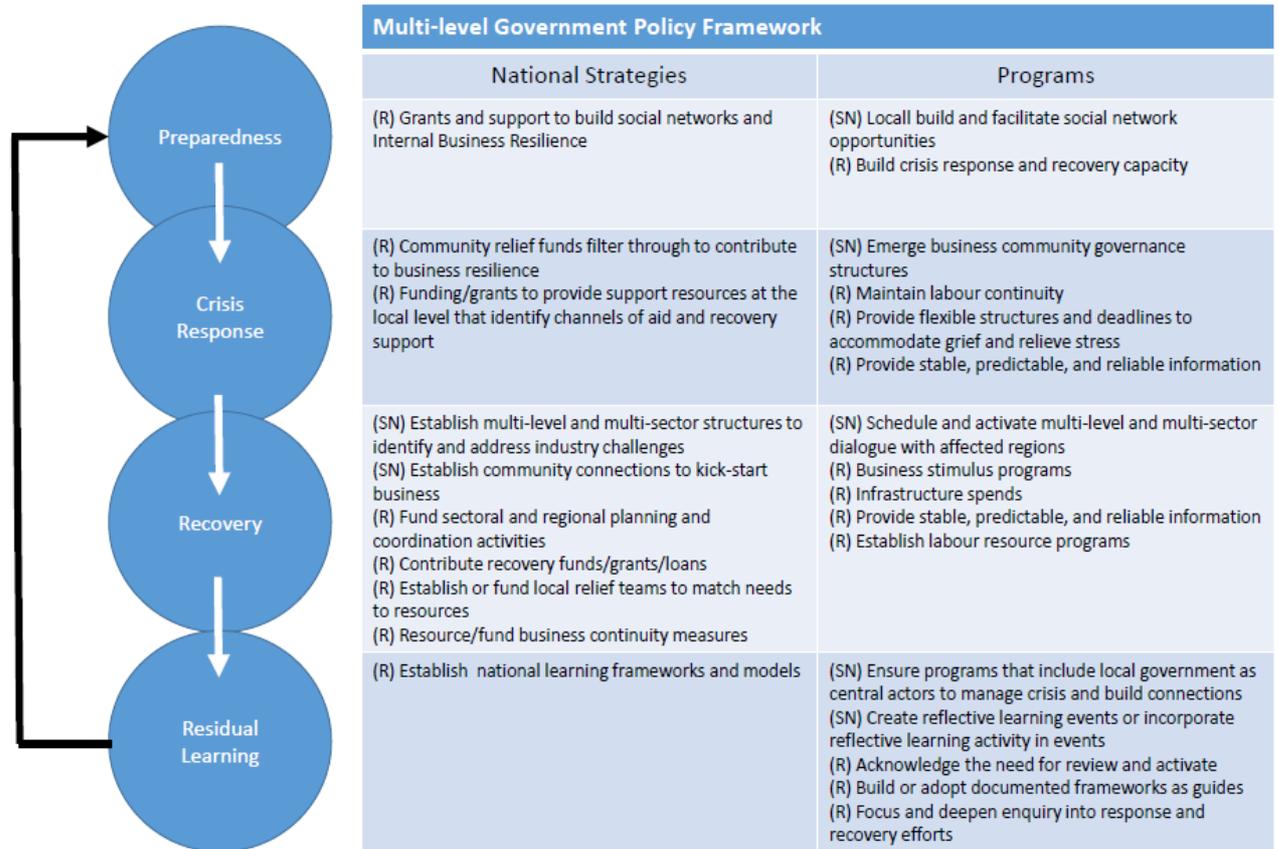


Figure 13: Policy Framework

CONCLUDING REMARKS: VARIATIONS IN FORM OF CRISIS

This research was initially requested in response to the Bush Fire crises experienced by many regional communities during the 2019/2020 Black Summer. Our choice of regions to analyse also extended into other forms of natural disasters, namely flood and cyclone and/or severe storm events. During the proposal stage of pitching the research, a second crisis arose of an entirely different nature and with far more widespread and indiscriminate effects across regional, urban and city environments: the Covid-19 pandemic. Further, during our interview series the wine industry was hit with high tariffs imposed on imports into China. This too is a different form of external shock that presents a crisis for those within that particular industry. Encountered in our interviews were also discussions of drought, another crisis event arguably exacerbated by climate change. This confluence of circumstances provided the opportunity to look at crisis events in different forms and to varying degrees of crisis impact.

While our target regions were recovering from recent 'natural disasters', they were also amidst the Covid-19 crisis. The presence of the biological Covid crisis endured longer than the research project and therefore, we were unable to examine the entire recovery phase of Covid-19 but more particularly only the partial crisis response and recovery phases. Notably, while still in the crisis, the response, recovery, and residual learning from such a long and drawn-out crisis overlaps with each successive

phase commencing before the prior phase concluding throughout the pandemic duration. This highlights the limitations of even a cyclic representation of resilience and emphasises **the systemic nature of resilience** that can appreciate the overlapping of cycles.

Appreciating the layered effects of crisis events (e.g., natural, biological, and economic), as experienced at each level by the Adelaide Hills wine region, reinforces the idea that resilience should be treated systemically rather than as a sequential set of steps to follow with a beginning and an end, or even favouring a cyclic approach as we have discussed. Crisis events can be stacked and nested within layers of local regions, industry impacts, and sweeping national crises. **Responding to crisis and building resilience at the regional level therefore is neither episodic nor continuous** in any predictable way like a once in a lifetime event or once in a decade. Crisis impact, response, recovery, learning, and preparedness may all co-exist at the one time, with phases of one crisis overlapping with a different phase of another crisis and in different geographic locations across a country. **Some regional business ecosystem or parts of a regional business ecosystem may experience devastation while others may experience boom in recovery or avoid disaster all together.**

For this reason, we present our findings with the caveat that while they highlight the critical elements and phases of RBE resilience and map a policy framework that targets particular policy considerations and program activities to match different phases, the reality of regional business resilience can be far different. At the point and time of any crisis impact, **resilience relies on localised communities within regions to band together and look out for each other.** In a business ecosystem sense, relationships are key that support business survival and rapid recovery to respond to local demand. Businesses that are resilient drive optimism and deliver a sense of hope that things can get back to normal or be renewed as a result of crisis. This localised response needs to be supported through the identification of resource needs and gaps, and for this the coordination of communication and processes must extend beyond the regional community level to interconnect across all levels of government and across many and varied industry sectors. **While communities can do much, governments, acting in a coordinated, rapid, and targeted way with clear anticipatory preparedness will accelerate regional recovery and heighten RBE resilience.**

Currently, in times of crisis, the pattern observed by our research suggests that the bottom-up community driven response is mismatched with the top down, well intended but sometimes misplaced or mistimed programs designed to support crisis response and recovery. This mismatching is at least partially responsible for slowing recovery and lowering regional resilience when considered as a holistic ecosystem.

RECOMMENDATIONS

In presenting our final policy recommendations we return to our definition of policy as the principles and ideas of Government that outline the objectives of program implementation by public administrators (Hill & Hupe, 2002, p.5). In conjunction with the more specific discussion of the policy framework and programmatic inferences, we offer the following set of policy recommendations for building RBE

resilience in regional communities:

1. **Coordination of a national resilience strategy is of primary importance** to achieve coordinated, rapid, and targeted responses to lift the level of RBE resilience. Regions and their business communities generally exhibit relatively strong levels of individual business resilience but in times of crisis it is the prepared and coordinated ‘joined-up’ responses of government that will deliver the most efficient, timely, and targeted resources and programs in response to RBE and community needs.
2. **National strategy coordination be considered an ongoing and persistent task.** The coordination of national resilience is a constant task that will involve persistent efforts of learning and knowledge dissemination, identifying the roles and functions of actors and how plans can best be prepared and maintained to respond to the nested levels of crisis. National strategy is not just relevant at the time of crisis and recovery but also for residual learning and preparedness. In times of increasing frequency of crisis events and at different scales and scope, national strategy will become increasingly a vital avenue to resources and provide access to important networked partners to create regional level resource and social capital building programs for RBE resilience.
3. **RBE resilience can be enhanced by policies targeting greater preparedness.** Our research revealed that while the notion of being prepared for the onset of physical property risks are regularly canvassed, preparedness encompasses both internal business factors and high levels of social capital. Policy can impact preparedness by targeting resources and programs that expand the regional business capacities on both these dimensions. While nearly half of our businesses sampled exhibited high resilience, the remaining businesses can benefit through exposure to resilience principles in advance of crisis impacts.
4. **Policies across levels of government that respect the local diversity of needs and trust the local intelligence of committed regional partners** will create a more rapid and targeted response to the impact of crisis.
5. **Greater regional capacity to gather intelligence and ensure connectedness would significantly increase RBE resilience.** In times of crisis, regional communities lack the human resources to work across a region and to gather intelligence, make vital connections, and provide local support. In the same way that a voluntary band of fire fighters are always prepared and in training for the chance fire event, a policy that aims to develop and resource local volunteers to act as crisis response teams would serve as a companion strike force that would come into effect immediately following a crisis event.
6. The most obvious point of policy intervention is across the crisis response and recovery phases in a RBE resilience ecosystem. A major policy recommendation is to **simplify the multiplicity of programs and ease the regulatory burden on the recovery processes** that add stress and delay in the RBE recovery following crisis impact.

7. **There is a major national strategy gap identified at the residual learning phase during and after crisis and recovery.** Policy is recommended that fills this void through a national resilience strategy coordination unit. Given the increasing number and multiple sources of crisis events, a national unit with the remit to gather systemic data, analyse, and disseminate new knowledge about the variations in crisis preparedness, response and recovery across forms and multiplicity of nested events, in different locations would be invaluable to raising rural and regional RBE resilience.

IMPLICATIONS FOR PRACTICE

Our primary objective for this research was to deliver a policy framework to guide building RBE resilience. In figure 13, with the accompanying commentary, we presented such a framework that distinguishes four phases of a resilience cycle within which particular policies could apply. Extending from this, we presented a number of policy recommendations. However, this leaves open the question of what specific stakeholder groups may actually do to operate within this framework. In this final section we present several key concepts that stakeholders at the national, state and local levels may consider in order to link up the policy framework and support the development of RBE resilience.

NATIONAL LEVEL

One of our major recommendations is around the need for a national coordination strategy for crisis recovery and resilience. It is opportune that there is indeed a National Approach being adopted by the current Federal Government with the announcement to establish a National Resilience, Relief and Recovery Agency to commence operations no later than 1 July 2021 (Commonwealth of Australia 2020). However, while this Agency was inspired by the Royal Commission into National Natural Disaster Arrangements, our research also observes the multiplicity of disasters or crises that may superimpose upon each other that range across the natural environment and/or climate induced crises, and extend into the biological, and economic spheres. Therefore, a National Resilience Agency must be prepared to consider the confluence of disasters and how the preparedness, response, recovery, and residual learning may be influenced by these unexpected turns of events that are not neatly discriminatory by timing.

We further highlight that resilience is not achieved by simply coordinating a sequential set of steps or even, as we have described here, recognising the steps as a discrete cycle. More holistically, resilience is achieved by recognising the systemic interactions of events, stakeholders, and activities. In order for national coordination to be achievable we propose the principal task at the national level is coordination and dissemination, which is consistent with the recommendations of the Royal Commission. The extension to this that we offer in this section is that the coordination and dissemination could be achieved through the use of a nationally adopted tool that might be described as a National Resilience System Mapping methodology and protocol. This methodology and protocol would set out the architecture for mapping the local regional resources, programs, infrastructure, and functions

established or needed to be established for particular areas to respond, recover and learn from the crisis events relevant to country or context. Such a common methodology would create a common language, simplify communications, aid coordination, and be a model through which learning could be captured and disseminated. While the development of such a national system approach would be the responsibility of the National Agency, coordination for regional application would occur at the state level and the application of and completion of the mapping would occur at the local level.

STATE LEVEL

By definition, a national coordination strategy cannot be enacted at one level, by one party, or without consideration of all regions within the national boundary. Therefore, the role of the States becomes vital to moving the national approach through to the regions where the shared national methodology and protocol will apply. The States become the lynchpin providing the structural and coordination resource to guide the implementation of the locally applied Resilience System Mapping. Furthermore, the States become the conduit of locally collected data, information and learning through to the National Agency. The States identify the gaps in knowledge, infrastructure, and resources and either propose or initiate state level plans and/or negotiate filling the gaps that fall within National responsibility. The States work with both the National and the Local levels.

While it is almost undoubtedly the case that this to varying extents already happens, the key improvement occurs through the centralised and facilitated methodology and protocol. The National Resilience System Mapping is the instrument that harmonises and prioritises the needs across regions. It recognises gaps in the regional business systems, captures the inputs and aids the learning that can be disseminated across much broader audiences. The centralised methodology and protocol accelerate absorption of new knowledge and insight given the common framework and language. The State governments are the intermediaries, the administrators and the coordinator for the regions that sit within their state boundaries. Knowledge and learning passes through the State from Local to National and vice versa.

LOCAL LEVEL

At the local level there are essentially two functions to be undertaken. The first is likely to be adopted by the Local or Regional Council that, in effect, interacts with the second function of data and intelligence gathering from across community business actors and agencies. Furthermore, individual businesses can input into the local ecosystem and take responsibility for their own resilience.

The majority of regional enterprises are small and micro enterprises, often operating in small and remote regions with limited capabilities to build social capital while also facing barriers to adoption of technologies. Thus, industry associations and local government authorities have an important role in supporting these businesses to 'get connected' while business owners should take every opportunity to reach out and be connected. Investment is needed in technologies that enable regional businesses to reach and access broader markets, supply chains, and business intelligence. Moreover, we

recommend investment and initiatives into up-skilling the sector through training and education programs aimed to support business owners' digital connectivity.

Below we highlight more specifically initiatives for the different stakeholder groups at local council, local business community organisations, and the individual businesses themselves. However, across all of these stakeholder groups there is a shared responsibility to build social networks that underpin the success of response and recovery initiatives for the regional communities. Leadership for these activities can emerge from any stakeholder group and activities that build social capital should be endorsed and supported across the stakeholder groups.

THE LOCAL OR REGIONAL COUNCIL

The local council or agency can act as a local Resilience Office. The primary roles of this office are fourfold: 1) to interpret the needs of the Resilience System Mapping project, 2) identify or target the ways and means of populating the information and data needed, 3) feed inputs into the State level representing and coordinating the local needs, and 4) develop the local team and resources that can contribute to the preparedness of the region and the activation processes at the response, recovery, and residual learning phases as they occur.

Given the unpredictable nature of crises, in times of non-crisis, this may not be a perennial full-time occupation but a regular periodic function. If crisis were to hit, then the Office would be activated as full-time or be regularly active when a crisis is not a sharp disruption but a slow and sustained disruption, such as the effect of drought. The local Resilience Office primarily facilitates the implementation of preparedness, response, recovery, and residual learning as it pertains to the local conditions and regularly represents the region at the State level.

At this level capturing learning is critical, which will require the Office to be socially connected in the business community and alert to opportunities to develop social capital and the residual learning from experienced crisis events and recovery.

THE LOCAL BUSINESS COMMUNITY

The second function at the local regional level is the equivalent to the Resilience Strike Force mentioned earlier in the report (see Policy Recommendation 5). The local business community is needed to be engaged in the preparedness of the region for crisis and be active in furnishing the data and intelligence required to populate the Resilience System Mapping. Just like the volunteer fire brigade is enacted at times of a fire, a volunteer strike force would be drawn from the local business community to be trained, meet regularly, and serve as the local community conduit for information gathering and dissemination in times of non-crisis. Equally and critically, the team would be activated during times of crisis to coordinate local resources and respond to the needs of community and the emergency services. During recovery, the Resilience Strike Force are the eyes and ears of the business community that identifies problems and opportunities and liaises with the local Resilience Office as needed to fill resource voids

and support the local business community.

More specifically, Chambers of Commerce and Industry Associations and similar can play a critical role in facilitating capability development, engendering information sharing, forming communities of practice, and proactively cultivating prudence/preparedness for disaster events. While individual businesses can be typically absorbed by their day-to-day routines and business development functions, business community bodies can serve to remind, prompt, and facilitate attention to preparedness and resilience. Business community bodies can offer, for instance, programs, courses, or guest speakers that promote flexibility at the individual and small business level that highlights how important optimism and value creation are when faced with adversity. Programs that build innovation capability and develop adaptive capacities at the firm level can be invaluable to RBE resilience.

INDIVIDUAL BUSINESSES

Individual businesses can also do much for themselves. It can be invaluable for every business to consider and develop diversity of product lines and sales channels to minimise the risk of total revenue losses in times of crisis. Equally, individual businesses can develop diversity in supply lines to the business and source local and/or alternate supplies of critical inputs. Recovering from disaster can be facilitated too by drawing attention to the possibilities of business model reinvention; cultivating disaster entrepreneurship skills among the management teams; building the business' social cohesion within its RBE; and lastly, strengthening community presence in terms of understanding, communicating and activating local connectedness that assists to sustain a business in times of crisis.

However, regional business owners should not operate as independent silos. It is recommended that individual businesses seek to establish ties with associative and institutional networks such as industry associations and chambers of commerce. These networks allow access to industry and markets, as well as business support services. While 'strong ties' developed through personal and face-to-face connections are important, an expanded network of 'weak ties' developed through online social platforms (e.g. Instagram, LinkedIn, Facebook) enable business owners to access new customers, suppliers, other businesses, and human resources. Business engagement with these platforms can enable regional businesses to build a strong digital presence, supporting social capital development and strengthening business resilience.

SUMMARY

The critical and overall thrust of this report is the need for National Coordination. There are implications at the discreet levels of National, State, and Local levels and there are certainly some actions that can be taken independently at these levels. However, a major improvement in Regional Business Ecosystem Resilience will only be substantially gained through adoption of a shared National framework, State facilitated, and implemented at the Local level. We propose that a linked structural mechanism could be achieved through the introduction of a National Resilience Mapping System that will be used across all levels to aid communication and coordination, guide best practice preparedness

within the regions and act as a means to capture and disseminate learning.

At the National, State and Local levels we summarise these distinct actions:

- **National:** Arrive at a national approach to share, capture and facilitate best practice and learning that acknowledges resilience as a system of resources, stakeholders, and activities.
- **State:** Establish the coordination and communication architecture between National and Local levels, preferably by drawing upon the national approach, to create the infrastructure that recognises and facilitates the needs of the regions to be prepared, react and respond swiftly, and sustain recovery.
- **Local:** Establish a local office that engages with a systematic approach, preferably following the guidelines of a national approach, to discover the strengths and weaknesses of the region in preparedness for crisis, facilitate rapid response and sustained recovery. Using a systematic approach, be prepared to coordinate with and lobby the State as needed and armed with the learning gathered during crisis events. Establish the means to resource a crisis response before a crisis occurs and be vigilant to the opportunities to develop social networks, cohesion, resilience capabilities and capacities, while encouraging businesses to be mindful and prepared for any crisis across a spectrum of natural, economic, and personal event.

Our research highlights the need for further investigation and development of the tools and resources that would embody a National Resilience System Mapping methodology and protocol. While there are already many such tools available, most result in useful but sequential or linear approaches while others identify the cyclic nature of resilience with feedback loops and learning based on singular events. With the increasing advent of crisis events, the advantage of an eco-systemic view of resilience is that it integrates both the cross-sectional representation of singular crisis points with the temporal and spatial views of overlapping events and the interdependency between events, stakeholders, and activities that span time frames beyond singular crises.

Resilience is a matter for all. Every individual, business and organisation can play a part in building regional business ecosystems that are resilient in times of crisis. We trust this works serves to identify the opportunities for every stakeholder to act in being prepared and building resilience among their community.

REFERENCES

- Adelaide Hills Council, 2020. *Economic Profile*. [Online]. Available at: <https://www.ahc.sa.gov.au/Business/economic-profile#:~:text=Gross%20Regional%20Product%3A%20%241.46%20billion,Largest%20employing%20sector%3A%20Retail>. [Accessed 9 March 2021].
- Aldrich, D. P. & Meyer, M. A., 2015. Social Capital and Community Resilience. *American Behavioral Scientist*, 59(2), pp. 254-269.
- Alonso, A., 2015. Resilience in the context of two traditional Spanish rural sectors: an exploratory study. *Journal of Enterprising Communities: People and Places in the Global Economy*, 9(2), pp. 281-203.
- Alonso, A. & Bressan, A., 2015. Resilience in the context of Italian micro and small wineries: an empirical study. *International Journal of Wine Business Research*, 27(1), pp. 40-60.
- Australian Bureau of Statistics, 2020a. *Adelaide Hills LGA*. [Online]. Available at: <https://dbr.abs.gov.au/region.html?lyr=lga&rgn=40120> [Accessed 22 April 2021].
- Australian Bureau of Statistics, 2020b. *Bundaberg LGA*. [Online]. Available at: <https://dbr.abs.gov.au/region.html?lyr=lga&rgn=31820> [Accessed 22 April 2021].
- Australian Council of Social Services, 2020. *Emergency Management: Prevention, Preparedness, Response & Recovery*. [Online] Available at: <https://resilience.acoss.org.au/the-six-steps/leading-resilience/emergency-management-prevention-preparedness-response-recovery>. [Accessed 11 March 2021].
- Australian Small Business and Family Enterprise Ombudsman, 2019. *Small business counts: Small business in the Australian economy*. [Online] Available at: <https://www.asbfeo.gov.au/sites/default/files/documents/ASBFEO-small-business-counts2019.pdf> [Accessed 24 July 2020].
- Ayala, J. & Manzano, G., 2014. The resilience of the entrepreneur. Influence on the success of the business: a longitudinal analysis. *Journal of Economic Psychology*, 42(1), pp. 126-135.
- Battaglia, M., Zhou, S. & Frey, M., 2019. Linking inside and outside: "identity" in crisis situations. *Journal of Organizational Change Management*, 32(4), pp. 457-472.
- Bernard, M-J & Barbosa, S 2016, 'Resilience and entrepreneurship: A dynamic and biographical approach to the entrepreneurial act', *Management*, vol. 19, no. 2, pp. 89-123.
- Bishop, P., 2019. Knowledge diversity and entrepreneurship following an economic crisis: an empirical study of regional resilience in Great Britain. *Entrepreneurship & Regional Development*, 31(5), pp. 496-515.
- Brown, R. & Mason, C., 2017. Looking inside the spiky bits: a critical review and conceptualisation of entrepreneurial ecosystems. *Small Business Economics*, 49(1), pp. 11-30.
- Chamlee-Wright, E. & Storr, V., 2014. Commercial Relationships and Spaces after Disaster. *Social Science and Public Policy*, Volume 51, pp. 656-664.

Commonwealth of Australia 2011, 'National Strategy for Disaster Resilience: Building the resilience of our nation to disasters', Canberra: Council of Australian Governments.

Commonwealth of Australia 2018, 'National Disaster Risk Reduction Framework', Canberra: Department of Home Affairs.

Commonwealth of Australia 2020, 'A national approach to national disasters: The Commonwealth government response to the royal commission into national natural disaster arrangements', Australian Government, Department of the Prime Minister and Cabinet.

Conz, E., Denicolai, S. & Zucchella, A., 2017. The resilience strategies of SMEs in mature clusters. *Journal of Enterprising Communities: People and Places in the Global Economy*, 11(1), pp. 186-210.

Cowling, M., Liu, W. & Ledger, A., 2012. Small business financing in the UK before and during the current financial crisis. *International Small Business Journal*, 30(7), pp. 778-800.

Cowling, M., Liu, W., Ledger, A. & Zhang, N., 2014. What really happens to small and medium-sized enterprises in a global economic recession? UK evidence on sales and job dynamics. *International Small Business Journal*, 33(5), pp. 488-513.

Dahles, H. & Susilowati, T., 2015. Business resilience in times of growth and crisis. *Annals of Tourism Research*, 51(1), pp. 34-50.

Deloitte, 2017. *Building resilience to natural disasters in our states and territories*. [Online] Available at: http://australianbusinessroundtable.com.au/assets/documents/ABR_building-resilience-in-our-states-and-territories.pdf

Department of Agriculture, Water and the Environment 2019, *New insights on the effects of drought and climate variability on Australian farms*, Department of Agriculture, Water and the Environment, Australian Government, viewed 19 February 2020, <<https://www.agriculture.gov.au/abares/news/media-releases/2019/effects-drought-climate-variability-australian-farms>>.

Department of Home Affairs, 2020. *Australian Disasters*. [Online] Available at: <https://www.disasterassist.gov.au/Pages/australian-disasters.aspx#> [Accessed 24 July 2020].

Doern, R., 2016. Entrepreneurship and crisis management: the experiences of small businesses during the London 2011 riots. *International Small Business Journal*, 34(3), pp. 276-302.

Fisher, R, Maritz, A & Lobo, A 2016, 'Does individual resilience influence entrepreneurial success?', *Academy of Entrepreneurship Journal*, vol. 22, no. 2, pp. 39-53.

Grube, L. & Storr, V., 2018. Embedded entrepreneurs and post-disaster community recovery. *Entrepreneurship & Regional Development*, 30(7), pp. 800-821.

Handmer, J., Ladds, M. & Magee, L., 2018. Updating the costs of disasters in Australia. *Australian Journal Of Emergency Management*, 33(2), pp. 40-46.

Herbane, B., 2010. The evolution of business continuity management: a historical review of practices and drivers. *Business History*, 52(6), pp. 978-1002.

Hill, M & Hupe, P. 2002. *Implementing Public Policy: Governance in Theory and in Practice*, Sage Publications Ltd, London.

Hmieleski, K., Carr, J. & Baron, R., 2015. Integrating discovery and creation perspectives of entrepreneurial action: the relative roles of founding CEO human capital, social capital, and psychological capital in contexts of risk versus uncertainty. *Strategic Entrepreneurship Journal*, 9(4), pp. 289-312.

Hunt, S., 2016. Building adaptive capacities for disaster resilience: what role for government?. *Australian Journal of Emergency Management*, 31(1), pp. 31-36.

Jaskiewicz, P., Combs, J. & Rau, S., 2015. Entrepreneurial legacy: toward a theory of how some family firms nurture transgenerational entrepreneurship. *Journal of Business Venturing*, 30(1), pp. 29-49.

Kitching, J. & Marlow, S., 2014. HR practice and small firm growth: balancing informality and formality. In: G. Saridakis & C. Cooper, eds. *How HR Can Drive Growth*. Cheltenham: Edward Elgar Publishing, pp. 26-45.

Ladds, M., Keating, A., Handmer, J. & Magee, L., 2017. How much do disasters cost? A comparison of disaster cost estimates in Australia. *International Journal of Disaster Risk Reduction*, 21(), pp. 419-429.

Lai, Y., Saridakis, G., Blackburn, R. & Johnstone, S., 2016. Are the HR responses of small firms different from large firms in times of recession?. *Journal of Business Venturing*, 31(1), pp. 113-131.

Leach, K., 2013. Community economic development: Localisation, the key to a resilient and inclusive local economy?. *Local Economy*, 28(7), pp. 927-931.

Lim, G., Nguyen, V., Robinson, T., Tsiaplias, S. and Wang, J. (2021), The Australian Economy in 2020–21: The COVID-19 Pandemic and Prospects for Economic Recovery. *Australian Economic Review*, 54: 5-18. <https://doi.org/10.1111/1467-8462.12405>

Linnenluecke, M., 2017. Resilience in Business and Management Research: A Review of Influential Publications and a Research Agenda. *International Journal of Management Reviews*, 19(1), pp. 4-30.

Linnenluecke, M. & McKnight, B., 2017. Community resilience to natural disasters: the role of disaster entrepreneurship. *Journal of Enterprising Communities: People and Places in the Global Economy*, 11(1), pp. 166-185.

Manyena, SB 2006, 'The concept of resilience revisited', *Disasters*, vol. 30, no. 4, pp. 433-450.

Martinelli, E., Tagliazucchi, G. & Marchi, G., 2018. The resilient retail entrepreneur: dynamic capabilities for facing natural disasters. *International Journal of Entrepreneurial Behavior & Research*, 24(7), pp. 1222-1243.

McInnis-Bowers, C., Parris, D. & Galperin, B., 2017. Which came first, the chicken or the egg?: exploring the relationship between entrepreneurship and resilience among the Boruca Indians of Costa Rica. *Journal of Enterprising Communities: People and Places in the Global Economy*, 11(1), pp. 39-60.

McKeever, E., Jack, S. & Anderson, A., 2015. Embedded entrepreneurship in the creative re-construction of place. *Journal of Business Venturing*, Volume 30, pp. 50-65.

McKnight, B. & Linnenluecke, M. K., 2019. Patterns of Firm Responses to Different Types of Natural Disasters. *Business & Society*, 58(4), pp. 813-840.

McNaughton, R. B. & Gray, B., 2017. Entrepreneurship and resilient communities – introduction to the special issue. *Journal of Enterprising Communities: People and Places in the Global Economy*, 11(1), pp. 2-19.

Miles, MP, Lewis, GK, Hall-Phillips, A, Morrish, SC, Gilmore, A & Kasouf, CJ 2016, 'The influence of entrepreneurial marketing processes and entrepreneurial self-efficacy on community vulnerability, risk and resilience', *Journal of Strategic Marketing*, vol. 24, no. 1, pp. 34-46.

Morris, M., Neumeyer, X. & Kuratko, D. F., 2015. A portfolio perspective on entrepreneurship and economic development. *Small Business Economics*, Volume 45, pp. 713-728.

Muñoz, P., Kimmitt, J., Kibler, E. & Farny, S., 2019. Living on the slopes: entrepreneurial preparedness in a context under continuous threat. *Entrepreneurship & Regional Development*, 31(5), pp. 413-434.

Nicholls, S. & Orsmond, D., 2015. *The Economic Trends, Challenges and Behaviour of Small Businesses in Australia*. Sydney, Reserve Bank of Australia.

O'Connor, A, Stam, E, Sussan, F & Audretsch, DB 2018, 'Entrepreneurial Ecosystems: The Foundations of Place-based Renewal', in O'Connor, A, Stam, E, Sussan, F & Audretsch, DB (eds), *Entrepreneurial Ecosystems: Place-based Transformations and Transitions*, Springer, Germany, pp. 1-21.

O'Sullivan, D., Rahamathulla, M., Pawar, M. 2020 The Impact and Implications of COVID-19: An Australian Perspective. *The International Journal of Community and Social Development*, 2(2):134-151.
doi:[10.1177/2516602620937922](https://doi.org/10.1177/2516602620937922)

Orhan, E., 2016. Building community resilience: business preparedness lessons in the case of Adapazari, Turkey. *Disasters*, 40(1), pp. 45-64.

Parker, H. & Ameen, K., 2018. The role of resilience capabilities in shaping how firms respond to disruptions. *Journal of Business Research*, 88(1), pp. 535-541.

Perez-Lopez, MC, Gonzales-Lopez, MJ & Rodrigues-Ariza, L 2016, 'Competencies for entrepreneurship as a career option in challenging employment environment', *Career Development International*, vol. 21, no. 3, pp. 214-229.

Queensland Government, 2020. *Get Ready Queensland*. [Online]
Available at: <https://www.getready.qld.gov.au/>
[Accessed 14 July 2020].

Radziwon, A. & Bogers, M., 2018. Managing SMEs' Collaboration Across Organizational Boundaries Within a Regional Business Ecosystem. In: W. Vanhaverbeke, F. Frattini, N. Roijakkers & M. Usman, eds. *Researching Open Innovation in SME*. s.l.:World Scientific, pp. 213-248.

Randall, W., Nowicki, D., Deshpande, G. & Lusch, R., 2014. "Converting knowledge into value: gaining insights from service dominant logic and neuroeconomics. *International Journal of Physical Distribution and Logistics Management*, 44(8/9), pp. 655-670.

Read, P, Denniss, R 2020. 'With costs approaching \$100 billion, the fires are Australia's costliest natural disaster', *The Conversation*, 17 January, viewed 19 February 2020, <<http://theconversation.com/with-costs-approaching-100-billion-the-fires-are-australias-costliest-natural-disaster-129433>>.

Rogers, P. 2011. Development of Resilient Australia: Enhancing the PPRR approach with anticipation, assessment and registration of risks. *Australian Journal of Emergency Management*, 26(1), 54-58.

Roundy, P. T., Brockman, B. K. & Bradshaw, M., 2017. The resilience of entrepreneurial ecosystems. *Journal of Business Venturing Insights*, 8(1), pp. 99-104.

Sabatino, M., 2016. Economic crisis and resilience: resilient capacity and competitiveness of the enterprises. *Journal of Business Research*, 69(5), pp. 1924-1927.

Shepherd, D. A. & Williams, T. A., 2014. Local Venturing as Compassion Organizing in the Aftermath of a Natural Disaster: The Role of Localness and Community in Reducing Suffering. *Journal of Management Studies*, 51(6), pp. 952-994.

Smallbone, D., Deakins, D., Battisti, M. & Kitching, J., 2012. Small business responses to a major economic downturn: Empirical perspectives from New Zealand and the United Kingdom. *International Small Business Journal*, 30(7), pp. 754-777.

Spigel, B., 2017. The Relational Organization of Entrepreneurial Ecosystems. *Entrepreneurship Theory and Practice*, 41(1), pp. 49-72.

Steiner, A. & Atterton, J., 2014. The contribution of rural businesses to community resilience. *Local Economy*, 29(3), pp. 228-244.

Steiner, A. & Cleary, J., 2014. What are the Features of Resilient Businesses? Exploring the Perception of Rural Entrepreneurs. *Journal of Rural and Community Development*, 9(3), pp. 1-20.

Storr, V., Haeffele-Balch, S. & Grube, L. E., 2015. *Community Revival in the Wake of Disaster Lessons in Local Entrepreneurship*. s.l.:Palgrave MacMillan.

Storr, V. H. & Haeffele-Balch, S., 2012. Post-disaster Community Recovery in Heterogeneous, Loosely Connected Communities. *Review of Social Economy*, 70(3), pp. 295-314.

Tibay, V., Millera, J., Chang-Richards, A. & Egbelakin, T., 2018. Business resilience: A study of Auckland hospitality sector. *Procedia Engineering*, Volume 212, pp. 1217-1224.

van der Vegt, G. r., Essens, P. & Wahlstrom, M., 2015. Managing risk and resilience. *Academy of Management Journal*, 58(4), pp. 971-980.

Van de Ven, H 1993, 'The development of an infrastructure for entrepreneurship', *Journal of Business Venturing*, vol. 8, no. 3, pp. 211-230.

Wang, C., Madsen, J. & Steiner, B., 2017. Industry diversity, competition and firm relatedness: the impact on employment before and after the 2008 global financial crisis. *Regional Studies*, 51(12), pp. 1801-1814.

Williams, N. & Vorley, T., 2014. Economic resilience and entrepreneurship: lessons from the Sheffield City Region. *Entrepreneurship and Regional Development*, 26(3), pp. 257-281.

Williams, T. A. & Shepherd, D. A., 2016. Victim entrepreneurs doing well by doing good: Venture creation and well-being in the aftermath of a resource shock. *Journal of Business Venturing*, 31(1), pp. 365-387.

Williams, T. et al., 2017. Organizational Response to Adversity: Fusing Crisis Management and Resilience Research Streams. *The Academy of Management Annals*, 11(2), pp. 733-769.

Queensland Government, 2020. *Disaster Management*. [Online] Available at: <https://www.disaster.qld.gov.au/dmg/Pages/DM-Guideline.aspx>. [Accessed 11 March 2021].

Ziaziaris, S., 2020. *These Aussie Distilleries Are Now Making One of the World's Most Sought-After Products: Hand Sanitiser*. [Online]

Available at: <https://www.broadsheet.com.au/national/food-and-drink/article/these-aussie-distilleries-are-now-making-one-worlds-most-sought-after-products-hand-sanitiser>

[Accessed 14 July 2020].

APPENDICES

APPENDIX A

Selected crisis events and responses – Adelaide Hills Region

Year	Type	Event, Date	Disaster Recovery Funding Arrangements (Joint Australian, state and territory government financial assistance)
2019	Bushfire	South Australian bushfires, November 2019 onwards	<p>Assistance measures:</p> <ul style="list-style-type: none"> - Australian Government Disaster Recovery Payment (AGDRP) provided one-off financial assistance to eligible Australians adversely affected by the bushfires. The rate of AGDRP was \$1000 per eligible adult and \$400 per eligible child. AGDRP was for people who had been seriously injured, lost their homes or whose homes had been directly damaged, or are the immediate family members of a person who has died, as a direct result of the bushfires. - Disaster Recovery Allowance (DRA) income support payments to employees, primary producers and sole traders who could demonstrate they had experienced a loss of income as a direct result of the bushfires. - Concessional loans to eligible small businesses, primary producers and non-profit organisations <p>Disaster Recovery Funding Arrangements (DRFA) assistance:</p> <ul style="list-style-type: none"> - Personal hardship and distress assistance - Personal and financial counselling - Counter disaster operations - Reconstruction of essential public assets - Concessional interest rate loans for small businesses, primary producers and non-profit organisations. <p>Category C Assistance - Community Recovery Fund (CRF) was provided to further assist bushfire affected communities. This was for a range of measures including targeted community projects, a marketing program and support to volunteer participation. The CRF encompassed recovery grants of up to \$75,000 for eligible primary producers and up to \$50,000 for small businesses were also available.</p>
2016	Storm	September Storm, 28 September 2016	<p>Natural Disaster Relief and Recovery Arrangements (NDRRA) Assistance measures:</p> <ul style="list-style-type: none"> - Personal hardship and distress assistance - Removal of debris from residential properties to make them safe and habitable - Personal and financial counselling - Extraordinary costs associated with the delivery of personal hardship and distress assistance - Counter Disaster Operations - Restoration of Essential Public Assets
2016	Storm	Mount Lofty Ranges - Kangaroo Island Flood	<p>NDRRA Assistance measures:</p> <ul style="list-style-type: none"> - personal hardship and distress assistance - counter disaster operations assistance - restoration of essential public assets

		event, 14 September 2016	
2015	Bushfire	Sampson Flat bushfire, 2- 8 Jan 2015	<p>The Disaster Recovery Payment (DRP) provided one-off financial assistance to eligible Australians adversely affected by the disaster. The DRP rate was \$1000 per eligible adult and \$400 per eligible child for people who have been seriously injured, who have lost their homes or whose homes have been directly damaged in these bushfires or the immediate family members of a person who has been killed.</p> <p>The Disaster Recovery Allowance (DRA) provided income support payments to employees, primary producers and sole traders who could demonstrate they have experienced a loss of income as a direct result of the Sampson Flat Bushfire in South Australia.</p> <p>NDRRA Assistance measures:</p> <ul style="list-style-type: none"> - personal hardship and distress assistance - counter disaster operations assistance - restoration of essential public assets
2013	Bushfire	Cherryville bushfire, 9 to 12 May 2013	<p>NDRRA Assistance measures:</p> <ul style="list-style-type: none"> - counter disaster operations assistance

APPENDIX B

Selected crisis events and responses – Bundaberg Region

Year	Type	Event, Date	Disaster Recovery Funding Arrangements (Joint Australian, state and territory government financial assistance)
2019	Bushfire	Eastern Qld Bushfires, 7 October - 19 December	<p>Australian Government Disaster Recovery Payment (AGDRP) provided one-off financial assistance to eligible Australians adversely affected by the bushfires. The rate of AGDRP was \$1000 per eligible adult and \$400 per eligible child. AGDRP was available for people who have been seriously injured, have lost their homes or whose homes have been directly damaged, or were immediate family members of a person who died as a direct result of the bushfires).</p> <p>Disaster Recovery Allowance (DRA) provided income support payments to employees, primary producers and sole traders who experienced a loss of income as a direct result of the bushfires.</p>
2019	Bushfire	Queensland Bushfires, September – December 2019	<p>Assistance measures:</p> <ul style="list-style-type: none"> - Counter disaster operations - Essential Services Safety and Reconnection Scheme - Personal Hardship Assistance Scheme - Disaster Assistance Loans for small businesses - Disaster Assistance Loans for primary producers - Freight subsidies and disaster recovery grants for primary producers <p>A Category C Community Recovery Fund (CRF) had been activated to further assist bushfire affected communities. Funding is available for a range of measures including mental health support, community development fund, local government grants, walking trails restoration, tourism recovery officers and a marketing program. Recovery grants of up to \$75,000 were provided for eligible primary producers.</p>
2018	Bushfire	Central Queensland Bushfires, from 22 November 2018	<p>Assistance measures:</p> <ul style="list-style-type: none"> - Personal hardship assistance scheme - Essential Services Safety and Reconnection Scheme - Counter disaster operations <p>A Category C Community Recovery Fund provided to further assist bushfire affected communities. Funding was for a range of measures including the employment of Community Development Officers, funding for a Community Mental Health Program, targeted funding grants for clean-up of community facilities and resilience building initiatives.</p>
2017	Flood, Storm	Central Coast Queensland Severe Weather, 16 to 19 October 2017	<p>Assistance measures:</p> <ul style="list-style-type: none"> - Counter disaster operations - Restoration of essential public assets - Removal of debris from residential properties to make them safe and habitable - Personal and financial counselling - Concessional interest rate loans for primary producers - Freight subsidies to primary producers

			Category C Assistance - Exceptional circumstances recovery grants of up to \$25,000 for eligible primary producers
2017	Cyclone, Flood, Storm surge	Tropical Cyclone Debbie and associated rainfall and flooding, 28 March to 6 April 2017	Disaster Recovery Allowance (DRA) provided income support payments to employees, primary producers and sole traders who could demonstrate they have experienced a loss of income as a direct result of the tropical cyclone. Natural Disaster Relief and Recovery Arrangements (NDRRA) Assistance measures: <ul style="list-style-type: none"> - counter disaster operations - extraordinary costs associated with the delivery of personal hardship and distress assistance - removal of debris - restoration or replacement of essential public assets
2015	Cyclone, Trough/ monsoonal trough	Severe Tropical Cyclone Marcia and South East Queensland trough, 19 to 22 February 2015	NDRRA Assistance measures: <ul style="list-style-type: none"> - restoration or replacement of essential public assets
2013	Low/ tropical low	Central and southern low, 25 February to 5 March 2013	NDRRA Assistance measures: <ul style="list-style-type: none"> - Counter Disaster Operations
2013	Flood, Rainfall, Cyclone	Tropical Cyclone Oswald and associated rainfall and flooding, 21 to 29 January 2013	Assistance measures: Disaster Income Recovery subsidy (DIRS) for employees, small business persons and farmers who could demonstrate they had experienced a loss of income as a direct result of the flooding and severe weather in Queensland. Natural Disaster Relief and Recovery Arrangements (NDRRA) financial assistance: <ul style="list-style-type: none"> - Personal hardship and distress assistance - Essential services and safety reconnection scheme grants - Counter disaster operations - Restoration of essential public assets - Concessional loans and freight subsidies for primary producers - Concession loans for small businesses - Clean and recovery grants of up to \$25,000 for affected primary producers - Clean-up and recovery grants of up to \$25,000 were available for affected small businesses and not-for-profit organisations - loans and grants of up to \$650,000 (including a grant of up to \$50,000) were available for affected primary producers and small businesses

2011	Bushfire	Queensland bushfires, August to November 2011	<p>NDRRA Assistance measures:</p> <ul style="list-style-type: none"> - Counter Disaster Operations
2010	Flood	Queensland floods, November 2010 to February 2011	<p>NDRRA Assistance measures:</p> <ul style="list-style-type: none"> - Counter Disaster Operations - Personal hardship and distress assistance - Concessional interest rate loans of up to \$250,000 for small businesses and primary producers, as well as freight subsidies of up to \$5,000 for primary producers - Concessional interest rate loans of up to \$100,000 for charitable and not-for-profit organisations - Tier 1 clean up recovery grants of up to \$5000 and Tier 2 grants of up to \$20,000 for primary producers and small business - Tier 1 clean up recovery grants of up to \$5000 and Tier 2 grants of up to \$20,000 for charitable and not-for-profit organisations <p>Category C community and recovery package:</p> <ul style="list-style-type: none"> - Assistance for the restoration of essential public assets - Essential services safety and reconnection grants of up to \$5,000 - Funeral and memorial grants of up to \$10,000

APPENDIX C

Qualitative Research Informed Consent Form



NEGLIGIBLE RISK RESEARCH CONSENT FORM

Project title: What are the most effective ways of building business resilience in regional and rural communities?

Researchers: A/Prof Allan O'Connor, A/Prof Claudine Soosay & A/Prof Rob Hallak

- I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.
I understand the purpose of the research project and my involvement in it.
I understand that my participation is entirely voluntary and I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.
I understand that the notes and digital recordings will be stored securely at the University of South Australia for a period of seven years and destroyed in accordance with the UniSA "Ownership and Data Retention Policy" and the "Australian Code for the Responsible Conduct of Research". Digital files will be password protected and accessible only by researchers and staff involved in the project.
I understand that I will be recorded during the interview

Name of participant.....

Signed..... Date.....

I have provided information document about the research to the research participants and believe that he/she/they understand what is involved.

Name of Researcher

Signed..... Date.....

This study has been approved by the University of South Australia Business Human Research Ethics Committee. The Approval Number is 93/2020.

APPENDIX D

Qualitative Interview Framework

RAI Project Regional Business Ecosystem Field Interview Questions

In this interview, we are seeking to understand how your regional business ecosystem responded after being affected by the latest series of natural disasters. Adelaide Hills has been selected as a case study due to its recent history with bushfires. We are keen to learn how businesses have gained experience with bush fire disasters and have become equipped to respond better or faster to lead to the re-establishment of the business through the efforts government, industry and community groups. As we explore the following questions, please also consider the effects of Covid-19 and whether the resilience and recovery measures of the recent natural disaster have at all influenced business resilience for Covid-19. What we learn from this interview will inform the development of a report for the Regional Australia Institute on developing a business ecosystem recovery policy framework. The interview consists of five questions and we hope to learn from your responses aspects of the following seven points:

- Regional business attitudes to disaster risk and preparedness for recovery
- Adaptive and learned behaviours of business in facilitating faster recovery
- The strength of supportive peer to peer business networks that facilitate faster recovery
- The affect of business diversity on the regional and community recovery
- The role of various levels of Government and other non-business service providers
- And, the plans, programs, policies that best support business recovery in the region.

Questions

1. Please share your perception of the gaps in the business community disaster recovery plans and processes? What are the main issues and challenges your organisation has faced in providing assistance to the business sector recovery?
2. How have you seen the business sector respond to the recent disasters? How have they developed capacity to recover faster/better and in what areas of business have you observed key adaptations or changes? Do you have specific examples?
3. How has your organisation played a part in building business networks to prepare businesses for recovery or facilitate the recovery process after the recent disaster event? Can you describe instances where businesses have openly worked together to assist mutual recovery or where assistance to support damaged businesses have been provided by other more fortunate businesses in the region? What have you observed as the most critical aspects of support provided in the peer to peer business networks?
4. Which industry sector has been hardest hit or most affected by the most recent disaster in your region? Has your organisation had to respond differently across the industry sectors in your region? Do you see business diversity as important for your regional recovery? Why or why not?
5. From your experience, what have been the most helpful programs and policies provided to the regional business community in your region by your organisation or others? What have been the least helpful, and why?

Thank you for your involvement in this research. Before we leave, do you have any recommendations for who else we should speak with on these topics to give us a good comprehension of the factors influencing business resilience and disaster recovery in the region?

APPENDIX E

Programs Identified during Qualitative Interviews

Context	Programs/ funding
National	The JobKeeper Payment scheme (administered by the Australian Taxation Office) which is a wage subsidy to support businesses and not-for-profit organisations significantly affected by COVID-19, to help keep more Australians in jobs.
	The JobSeeker Payment scheme which commenced in March 2020 to replace the Newstart Allowance program provides financial assistance to employees stood down or let go, sole traders, self-employed, casual workers and contract workers who meet the income test as a result of the economic downturn due to the Coronavirus.
	The HomeBuilder scheme which is a stimulus policy supporting construction industry workers through COVID-19 impacts and helping bushfire affected communities and also Australians to build, rebuild, or extend their homes.
	'Strengthening Business' program which helps bushfire affected small businesses rebuild (after the 2019-2020 Black Summer bushfires). This is part of the Commonwealth Entrepreneurs' Programme which provides businesses the opportunity to improve their growth capabilities and networks, engage with researchers, foster innovation and encourage commercialisation of novel products, processes and services through mentorship, grant funding and expert advice from specialist business advisers in Australia.
	COVID-19 Relief and Recovery Fund – covering Airfreight support particularly the International Freight Assistance Mechanism (IFAM) to keep open key international freight links with trading partners for goods coming into and going out of Australia. IFAM supports the efforts of businesses trading internationally, including in the agricultural, seafood and healthcare sectors, to re-establish key global supply chains, which have been disrupted by COVID-19, supporting the international economic recovery.
	COVID-19 Relief and Recovery Fund - covering Consumer Travel Support Program, Regional Tourism Bushfire Recovery and Export Market Development for the tourism sector.
State (South Australia)	South Australian Government Concessional Bushfire Loans (under the Disaster Recovery Payment program) for small businesses.
	South Australian Emergency Cash Grants for small businesses and not-for-profits impacted by COVID-19 restrictions to support the ongoing survival of entities and in minimising job losses.
	South Australia Tourism Industry Development Fund was designed as a result of the impacts of drought, the 'black summer' bushfires and the COVID-19 pandemic - to support and stimulate private sector investment in new and improved regional accommodation, and the development of quality tourism product and experiences. It aims to assist in the COVID recovery of regional tourism by encouraging regional operators to improve and diversify so they can attract more visitors and get a higher return on their offering.

	Wine Grape Smoke Taint Grant SA which supports wine grape producers who have suffered crop damage from smoke taint caused by the 2019-20 bushfires
	Bushfire Recovery Grants for apple and pear growers in South Australia to support the clean-up of destroyed orchards, repair or replacement of trees, trellises, netting infrastructure and equipment and to kickstart employment.
	SA Country Fire Service (CFS) Bushfire safety and survival for business and organisations Program
	Department of Human Services' Grants (SA) program which provides funding to community organisations to improve community participation, wellbeing and quality of life for South Australians.
	SA Regional Access Program which is part of the Mental Health and Wellbeing programs for South Australians during Covid-19.
Regional (Adelaide Hills Region)	SME Business Advisory Services Program (by Adelaide Hills local government) which helps eligible small and medium sized businesses access professional services to grow and transform their business.
	Rural Business Support (RBS) program - based in South Australia that offers services and programs to inspire farmers and small business owners in rural areas to take action to improve their financial position.
	Adelaide Hills Council Annual Community Grants Program for community and supporting groups who are leading initiatives of resilience and wellbeing in the face of bushfire recovery and managing COVID.
	Local Council Community Outreach Programs in Adelaide Hills region developed to form strong and authentic connections between Council and the communities across the various districts.
	'Rethinking Business' which is a local government initiative (co-funded by State government) for knowledge sharing and best practices in reinventing business models and diversification across industries in the region.
State (Queensland)	The Queensland State Disaster Management Plan; Queensland Disaster Management Training Framework.
	Market Diversification and Resilience Grants, Queensland – for small businesses in the agriculture, food and fish exporting industries for diversifying their business and accessing new markets.
	Supply Chains Support and Assistance for Manufacturers, Queensland – to assist manufacturers and businesses having difficulties accessing supplies to continue to operate, employ and meet customer needs.
	Volunteering Queensland program (which is dedicated to advancing volunteering for the economic, social, cultural & environmental well-being of Queensland) targeted at providing assistance to Councils and Community Organisations in times of disasters as well as support preparedness and recovery activities.
	Small Business COVID-19 Adaption Grant Program to support small businesses subject to closure or highly impacted by the coronavirus (COVID-

	19) shutdown restrictions announced by the Queensland Government, to adapt and sustain their operations, and build resilience.
	Pick Queensland (#pickqld) initiative - to attract and retain seasonal workers across Queensland's agriculture sector.
Regional (Bundaberg region)	Bundaberg Community Resilience program and 'Building a Healthy Bundaberg Alliance'.
	Bundaberg Local Disaster Management Plan; Bundaberg Bushfire Survival Plan

APPENDIX F

Quantitative Survey

Commercial in Confidence:

UniSA-RAI draft questionnaire on business resilience

TO BE COMPLETED BY THE OWNER OR MANAGER OF THE BUSINESS

Factors influencing business resilience?

INFORMATION AND CONSENT

Researchers from the University of South Australia, in partnership with the Regional Australia Institute, are conducting a study on business and community resilience. The project aims to deliver strategies for supporting the resilience and success of businesses in regional Australia.

We would like to invite you to participate in this study through a telephone survey. This will take around 15 minutes of your time. You can choose not to answer any question or even stop the survey at any time. Participation in this study is voluntary and poses no risk or harm beyond those encountered in everyday life. You are free to withdraw from the research at any time.

Information collected from the survey up until the time you withdraw will be destroyed. Withdrawal will not affect your status now or in the future. Your details shall remain confidential and anonymous and no information concerning any individual will be released.

The survey will seek information about

- Demographic questions around your age, gender, occupation etc.
- Questions about the business
- Questions designed to capture your relationship with your town
- Business strategies and future outlook

All information pertaining to this study will be stored in digital format in the researchers' computer hard drives located in the University of South Australia's City West Campus. The hard drives are password protected and kept in a secure office only accessible by the researchers. Data for this study will be retained for 5 years as per the University of South Australia's policy.

This project has been approved by the UniSA Business Negligible Risk Ethics Committee. If you have any ethical concerns about the project or questions about your rights as a participant, please contact the Executive Officer of this Committee, tel: +61 8 8302 3118; email: vicki.allen@unisa.edu.au or Allan O'Connor - BIS Unit/UniSA Business, Phone 8302 0460RoomWL5-35

Do you wish to proceed with the survey?

Yes

No

RAI 2020 draft questionnaire – 08/11/2020

Questionnaire

1. What is the main activity this business, e.g. motel, winery, agriculture etc..

2. What is the postcode of this business's address _____
3. In what year did this business begin its operation? _____
4. Is this business a
 - Sole trader
 - Partnership
 - Limited liability company
 - Other (e.g. trust) _____
5. Is this business a family owned business?
 - Yes
 - No
6. How many staff in total does the business employ (including full time and part time)? _____
7. Has the number of current staff changed from before COVID19
 - Increased
 - Decreased
 - Stayed the same
8. What is your role in the business?
 - Owner
 - Director
 - Manager
 - Owner operator
 - CEO
 - Other (please specify) _____
9. How long have you been in the current business?
 - Less than 1 year
 - 1 – 2 years
 - 3- 5 years
 - 6-10 years
 - More than 10 years
10. Have you ever completed any qualifications / formal training in business management or entrepreneurship?
 - No
 - Yes
11. How many years have you worked in this industry throughout your career?
_____(years)

12. What is the highest level of education you have completed?

- Did not complete high school
- Completed high school
- Certificate / Diploma
- Bachelor's Degree
- Post-Graduate Degree
- Others (please specify) _____

13. The following questions ask about the support services that are accessible to your business in the Adelaide Hills (or around a 1 hour drive from your location). Please respond on a scale of 1-7 where, 1= Strongly Disagree, 7 = Strongly Agree.

	1 = Strongly Disagree, 7 = Strongly Agree						
Funding is accessible to support businesses recover through crisis	1	2	3	4	5	6	7
There are many local institutions that provide or supply support to our business	1	2	3	4	5	6	7
Governments play an important role in facilitating networks that enable access to technology and innovation in our region	1	2	3	4	5	6	7
There are strong social networks among the businesses and employees in our region	1	2	3	4	5	6	7
There is a high level of trust among businesses in our regions	1	2	3	4	5	6	7
Other businesses in our region play an important role in supporting each other through crisis	1	2	3	4	5	6	7

14. The following section asks about your social networks and your relationships with key stakeholders. On a scale of 1-7, were 1 = very weak relationships, to 7 = very strong relationships, how strong are your relationships with the following groups:

	1 = very weak relationships, 7 = very strong relationships,						
Local businesses and suppliers	1	2	3	4	5	6	7
Local Government/ councils	1	2	3	4	5	6	7
Industry association groups	1	2	3	4	5	6	7
Business networking groups	1	2	3	4	5	6	7
Universities and research centres	1	2	3	4	5	6	7

15. The follow statements relate to your attachment and support for the Adelaide Hills/ Bundaberg (delete as applicable to region). Please respond on a scale of 1-7 where, 1= Strongly Disagree, 7 = Strongly Agree.

	1 = Strongly Disagree, 7 = Strongly Agree						
I have strong ties to the Adelaide Hills/Bundaberg	1	2	3	4	5	6	7
I really feel at home in the Adelaide Hills/Bundaberg region	1	2	3	4	5	6	7

I feel as though the Adelaide Hills/Bundaberg is a part of me	1	2	3	4	5	6	7
I really feel that I am a member of the Adelaide Hills/Bundaberg community	1	2	3	4	5	6	7
I miss the Adelaide Hills when I'm not here	1	2	3	4	5	6	7

16. As a business, how often do you provide support and assistance in the following areas (1 = Never, 7 = Very Often):

	1 = Never, 7 = Very Often						
Being involved in community projects	1	2	3	4	5	6	7
Supporting local youth programs, schools and sporting clubs	1	2	3	4	5	6	7
Making financial contributions to community-based projects	1	2	3	4	5	6	7
Being actively involved in community festivals and events	1	2	3	4	5	6	7
Assisting in projects that aim to protect the local environment	1	2	3	4	5	6	7

17. The following section will ask questions in regard to your business' resilience in the face of a crisis. Please respond on a scale of 1-7 where, 1= Strongly Disagree, 7 = Strongly Agree.

	1 = Strongly Disagree, 7 = Strongly Agree						
We are able to shift rapidly from business-as-usual mode to respond to a disaster	1	2	3	4	5	6	7
We are focused on being able to respond to the unexpected	1	2	3	4	5	6	7
Whenever we suffer a close call, we use it as a trigger for self-evaluation rather than confirmation of success	1	2	3	4	5	6	7
We have clearly defined priorities for what is important during and after a disaster	1	2	3	4	5	6	7
We clearly understand the minimum level of resources it needs to operate successfully	1	2	3	4	5	6	7

	1 = Strongly Disagree, 7 = Strongly Agree						
We actively participate in industry and sector groups	1	2	3	4	5	6	7
We collaborate with others in our industry to manage unexpected challenges	1	2	3	4	5	6	7
We have agreements with other organisations to provide resources in a disaster	1	2	3	4	5	6	7
We keep in contact with organisations that we might have to work with in a disaster	1	2	3	4	5	6	7
We understand how we are connected to other businesses in the same industry and location and actively manage those links	1	2	3	4	5	6	7

As a business organisation...

	1 = Strongly Disagree, 7 = Strongly Agree						
We actively look for ways to replace the losses we encounter in life	1	2	3	4	5	6	7
We believe that we can grow in positive ways by dealing with difficult situations	1	2	3	4	5	6	7
We look for creative ways to alter difficult situations	1	2	3	4	5	6	7
Regardless of what happens to us, we believe we can control our reaction to it	1	2	3	4	5	6	7

18. Please estimate how you expect this business to perform in the next 2 years

	1 = Decrease significantly, 5= Increase significantly 3= Remain the same				
Sales and revenues	1	2	3	4	5
Market share	1	2	3	4	5
Profitability	1	2	3	4	5
Adoption of new technologies	1	2	3	4	5
Number of full-time staff	1	2	3	4	5
Number of part time/ casual staff	1	2	3	4	5

19. What do you consider to be the major challenges to your business' recovery over the next 12 months?

20. Gender:

- Male
- Female
- Other

21. What is your age:

- 18- 25
- 26-35
- 36-45
- 46-55
- 56 and above

THANK YOU FOR COMPLETING THE SURVEY, would you be willing to participate in a follow up study at a later date

- No - END THE SURVEY
- Yes ____please provide e-mail address for follow up _____

APPENDIX G

Human Capital of High Resilience businesses vs Moderate/Low Resilience businesses

	High Resilience	Moderate/Low Resilience
Industry Experience (years)	17.77 (12.65)	17.53 (11.31)
Current Business Experience		
< 1 year	6 (6.7%)	5 (5.0%)
1 – 2 years	7 (7.8%)	11 (11.0%)
3 – 5 years	22 (24.4%)	18 (18.0%)
6 – 10 years	12 (13.3%)	15 (15.0%)
> 10 years	43 (47.8%)	50 (50.0%)
Formal business qualifications		
No	68 (75.6%)	76 (76.0%)
Yes	22 (24.4%)	24 (24.0%)
Highest Education Level		
Did not complete HS	8 (8.9%)	18 (18.0%)
Completed High School	20 (22.2%)	20 (20.0%)
Certificate/Diploma	36 (40.0%)	34 (34.0%)
Bachelor's Degree	22 (24.4%)	22 (22.0%)
Postgraduate Degree	4 (4.4%)	6 (6.0%)

APPENDIX H

Business characteristics of High Resilience businesses vs Moderate/Low Resilience businesses

	High Resilience	Moderate/Low Resilience
Location (n)		
Adelaide Hills	50	48
Bundaberg	40	52
Mean Business age (years)	26.27 (27.08)	20.36 (21.94)
Business structure		
Sole trader	39 (43%)	39 (39%)
Partnership	14 (15.6%)	18 (18%)
Company/LLC	18 (20%)	20 (20%)
Other	16 (17.8%)	21 (21%)
Business size		
Micro* (<5 employees)	28 (31.1%)	57 (57%)
Small (5-19 employees)	43 (47.8%)	39 (39%)
Other (20+ employees)	18 (20%)	4 (4%)
Family Business		
Yes	65% (72.2%)	82 (82%)
No	25 (27.8%)	17 (18%)