SMALL BUSINESS INNOVATION IN THE HOSTILE ENVIRONMENT OF AUSTRALIA'S DROUGHT STRICKEN RURAL COMMUNITIES

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ABSTRACT: The study examines innovations implemented by small businesses in rural Australia to overcome the effects of the drought. Focus group meetings with a total sample of 32 owner/managers in six rural communities revealed that the innovations were generally small, incremental and associated with daily operations. They were aimed at protecting or growing markets, accessing resources and operating efficiently. These innovations were necessary to conserve scarce resources in an environment of declining markets and tight profit margins. Despite this general trend, some innovations were significant. These were radical in nature and took the form of organisational restructuring and market development through mergers and acquisitions, and product and market diversifications. They were highly risky but made notable contributions to the communities. Good and careful planning and access to resources can help mitigate some of the risks associated with these high end innovations.

KEY WORDS: Rural development, Hostile environment, Small business, Innovation, Drought

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1. INTRODUCTION

The last half century has seen a drive to improve productivity in Australia's primary sector. This has occurred through greater uptake of research and development (R&D), improvement in scale economies, farm amalgamations, widespread mechanization of production and processing, and adoption of modern management techniques. These factors have served to raise the volume of production to keep the sector profitable in the face of adverse climatic conditions, unfavourable terms of trade, and currency movements. In recent years, these adverse trends have drawn attention to socio-economic conditions in rural Australia. In particular, the struggles of many rural communities came to the fore during the long period of drought stretching from 2001 to 2009. It became clear that for the primary sector to continue its contribution to the Australian economy, the communities that support the sector must be kept viable.

Many rural communities in Australia are dependent on primary production and/or mining so that their economic performances fluctuate with performance of these major industries. Some of these communities are at risk of extinction when their mines close. The non-agricultural small enterprise sector could provide the diversification necessary to shield rural communities from downturns in these resource industries. On average, about 35 percent of small businesses in Australia are located in non-metropolitan areas. This ranges from 25 percent in Victoria and Western Australia to over 50 percent each in Queensland and Tasmania (Department of Innovation, Industry, Science and Research (DIIS&R), 2011). Small businesses are by far the largest in number of businesses in rural Australia. They contribute to employment and income in these communities and curb the rate of rural-urban migration. Importantly, they sustain these communities when outputs from the primary and mining industries fall. Despite their potential to enhance economic performance, the literature on small businesses in rural settings is sparse (Bruce *et al.*, 2009). For example, there are no statistics on how much and in what ways small businesses contribute to regional Australia. As a result, policy makers have limited information from which to draw when formulating intervention programs for the sector.

Siemens (2010) studied rural small businesses in Canada and concluded that they differ significantly from their urban counterparts. She cautioned the application of research findings on small businesses in general to those in the rural sector. This paper seeks to ascertain the innovative strategies adopted by small businesses in Australia's rural communities to sustain them through the period of severe drought. It determines the extent of radical versus incremental innovations implemented and the associated risks and outcomes. The research therefore enables assessment of the relative contributions of these innovations to sustaining rural communities. The findings will be relevant to developing programs that build resilience of the small business sector to adverse trends and enhance their contribution to rural economies.

A description of the research context is followed by a review of the literature on business environment and innovation. The research questions are defined in section four and the research methodology explained in section five. Information from focus group meetings with business owners are presented in section six. The findings are discussed in section seven which also covers implications, future research and limitations.

2. THE RESEARCH CONTEXT

The study was funded by the Cotton Catchment Communities Cooperative Research Centre and therefore focused on cotton communities in rural Australia. All the factors that affect cotton output also impact cotton communities, but the most pertinent are: water availability; automation of production processes in the industry and decreasing labour requirements; dependence on agriculture; and conditions on the global market (Kotey *et al.*, n.d.). In several of the New South Wales (NSW) cotton communities, the decline in cotton output during the drought led to a cumulative cycle of labour retrenchments (Kotey *et al*. n.d.). These in turn caused a significant percentage of the population to outmigrate. The number of empty shops and houses resulted in a sharp drop in real estate prices. Children left with their outmigrating parents, so that class sizes in primary and secondary schools shrunk. Teachers and other health and social service workers left to better performing towns and they were difficult replace. As a result, access to the associated services became restricted. The aggregate of these factors caused the incomes of small businesses dependent on the local market to shrink, forcing some to close and others to relocate to bigger towns (Kotey*et al*. n.d.).

In contrast to the NSW cotton communities, cotton communities in Queensland such as Dalby and Emerald had thriving mining sectors. This enabled redundant labour from the agricultural sector to be absorbed into the mining sector. While these communities experienced population and income growth during the drought, small businesses within them encountered a different set of challenges from those in the farming communities. Some benefited from mining (Petkova*et al*., 2009) but others were forced to close, as demand for their goods and services fell. With rising wage and rental costs, their products had become less competitive (Stimson, 2011; McDonald *et al.*, 2012). Small businesses also found it difficult to attract employees because they could not compete with the high wages paid by the mining companies (Evans and Sawyer, 2009; Petkova*et al*., 2009). Furthermore, high rent costs deterred prospective employees from relocating to the towns (Garnett, 2012). The rise in crime and violence from unstable populations of itinerant workers (Scott*et al.*, 2012; Danaher, 2000) also posed threats to small businesses.

The situation worsened when a mine closed or downsized. Small businesses dependent on the mining companies for inputs or sale of outputs lost their major suppliers or customers (McDonald *et al*., 2012). The ensuing retrenchments and population decline further reduced demand for goods and services, pushing some businesses to close and others to relocate or downsize (Allan, 2010). Overall, the environment of small businesses in both the NSW and Queensland cotton communities was hostile.

3. THE ENVIRONMENT AND SMALL BUSINESS OUTCOMES

The economic relevance of small businesses lies in their ability to generate economic value in the form of employment, goods and services, exports, taxation income and innovation (Acs and Armington, 2004; Friar and Meyer, 2003). Small businesses also operate more efficiently than large firms (Enright and Roberts, 2001) but are more vulnerable to failure (Watson and Everett, 1999). Several reasons are delineated in the literature for this high failure rate. However, the majority point to management practices of the owners (Scarborough, 2011). It is also widely held that small businesses are disadvantaged by the liabilities of newness and smallness. Their small size, limited resources and networks impede access to the resources they require to operate successfully (Freeman*et al*., 1983). Consequently, outcomes from small businesses depend not only on factors internal to the business but also on external factors i.e. factors in the broad environment in which they operate (Boohene, 2006). The environment encompasses the type and nature of conditions outside the business (Hannan and Carroll, 1992). It poses constraints and contingencies but also provides opportunities.

Several researchers have examined the impact of the environment on business. The initial position that businesses are totally at the mercy of their environments has been extended to show that their managers can intervene, particularly through strategic adaptation and development of unique resources, to overcome adverse effects of their environments. The population ecology theory, pushed by Hannan and Freeman (1977; 1989) and Carroll and Hannan (1995), argued that businesses have limited control over their outcomes. Instead, businesses whose forms are adapted to the specific demands of their locations are naturally selected over others. This occurs through an evolutionary process based on geographical conditions, resource availability, legitimization, and intensity of competition (Baum, 1996; Bataglia and Meirelles, 2009).

Businesses, however, are not totally at the mercy of their environments. The strategic adaptation theory postulated that owner/managers have considerable discretion to shape the course of actions and influence their business outcomes. They do so through the strategies they choose and the adaptations they make in response to opportunities and threats in their external environment (Schindehutte and Morris, 2001; Lerner and Almor, 2002; Edelman*et al.*, 2005; Venkataraman and van de Ven, 1998). The process of adaptation is continuous but the tendency to adapt differs among businesses and reflects the experiences and growth ambitions of their owner/managers (Child, 1997; Jennings, 2004; Schindehutte and Morris, 2001). Schindehutte and Morris (2001) noted that the frequency of adaptation is lower in stable than in turbulent environments. They also found that improvements in small business performance can be attributed to product/service or market innovations.

Jennings (2004) drew on the resource-based theory and added that successful adaptation requires visionary and proactive leadership in developing and implementing innovations that cannot be easily imitated by competitors. Similarly, Edelman *et al*. (2005) and Caldeira and Ward (2003) attributed business outcomes to the possession and use of rare, valuable, inimitable, and non-substitutable resources and capabilities that provide the business a superior position to its rivals. Small businesses are seen as potential creators of innovations in the form of unique resources and capabilities whether tangible (raw materials, equipment), intangible (reputation, brand equity, employee knowledge and skills) or both (Amit and Schoemaker,1993; Hamel and Prahalad,1994). However, intangible resources, particularly human and knowledge capital are acknowledged as most important for carving a unique position in the marketplace because they are difficult to imitate (Andersen, 2010; Wright*et al*., 2001). The resource-based theory assumes that businesses possess heterogeneous assets and differ in the levels of competence, commitment and investments available to and utilized by them (Srivastava*et al.*, 2001). These differences explain variations in their survival. In small businesses, strategies are not explicit but emanate from the innovations conceived and implemented by owner/managers. As such, owner/managers' leadership and management skills are part of the intangibles that provide competitive advantage (Kelliher and Reinl, 2009; Bosma*et al*., 2004; Da Silva, 2000; Kotey and Meredith, 1997; Verheul*et al*., 2002).

Combining the above theories, researchers have identified types of environments and within these environments suggested strategies and resources for effective performance. The hostile environment and its associated strategies are discussed next.

3.1 HOSTILE ENVIRONMENT

Four types of business environments are delineated in the literature. Miller and Friesen (1983) identified three: dynamic, hostile and heterogeneous and Covin and Slevin (1989) added a fourth, benign environment. This paper focuses on hostile environments, described as multi-faceted with vigorous and intense competition and downswings and upswings in the dominant industry. According to Covin and Slevin (1989), hostile environments are harsh, precarious, overwhelming and lacking in exploitable resources and opportunities. Hostile environments are beyond the immediate control of the business. They are characterised by small decision windows, diminishing opportunities and changing constituents (Davis *et al*., 1991). Davis and his colleagues explained that markets tend to be fragmented and resource specialization high in such environments, raising the risk of obsolescence.

Hostile environments require close analysis to understand, master and mitigate the threats. Lindelof and Lofsten (2006) emphasised the importance of information gathering for risk reduction and Verhees and Meulenberg (2004) suggested gathering supplier and customer market intelligence during environmental scanning. Miller and Friesen (1983) cautioned that resources are scarce and profit margins slim. Therefore, businesses must pay attention to resource conservation and to selective pursuit of economically competitive strategies rather than embark on forceful and proactive strategies that involve novel ideas and extensive risk-taking. Consistent with this position, Miles *et al.,* (1993) reported a negative association between entrepreneurial behaviour and environmental hostility. Khan andManopichetwattana (1989) and Wolff and Pett (2006) also found negative relationships between environmental hostility and innovation. Miles *et al*. (1993) recommended reactive and risk-averse competitive behaviour with particular attention to pricing as the appropriate strategy in a hostile environment. However, they noted that perceptions of the environment as hostile are reduced when owner/managers' environmental scanning efforts enhance their understanding of the environment. White (1998) advised that traditional strategy-making is ineffective in hostile environments because rapid changes in the rules of the game make strategies obsolete before implementation. In contrast to these authors, Li and Atuahene-Gima(2001) found that turbulence in hostile environments creates new market opportunities, promotes innovation, and necessitates unlearning of routines for flexibility to embrace innovation.

While there is consensus regarding the importance of innovation to dynamic and heterogeneous environments (see for example Koberg *et al*.,2003; Khan and Manopichetwattana, 1989), the same cannot be said for hostile environments. Eisenhardt and Tabrizi (1995) argued that innovation is difficult in hostile environments but Mason (2007), Li and Atuahene-Gima (2001) and Oke *et al*., (2012) advocated a strategy of industry leadership, involving continuous innovation and constant replacement of products ahead of competitors. Lau *et al*., (2004) suggested flexibility and entrepreneurial orientation (innovation and risk-taking) in strategy-making. Chakravarthy (1997) added risk taking, quick learning from mistakes, and use of strategic alliances to leverage competences and other specialized resources. Nonetheless, resource conservation in hostile environments (Miller and Friesen, 1983) calls for a cautious approach to innovation. What approach then do small businesses adopt to innovate in their hostile environment? While the question remains unanswered in the literature it has not been explored for rural small businesses. Given the divergent views on innovation in hostile environments, the concept of innovation is examined for a better understanding of its relevance to hostile environments.

3.2 INNOVATING IN HOSTILE ENVIRONMENTS

The different views on the relevance of innovation to hostile environments may be due to lack of consensus on the definition of innovation (Johanssen*et al*., 2001; Bhaskaran, 2006). The Australian Bureau of Statistics (ABS) defined innovation as 'the introduction of a new or significantly improved good or service; operational process; organisational/managerial process; or marketing method (DIIS&R, 2011 p.39). A business with innovative activity is one that is undertaking any work that was intended to or did result in the introduction of an innovation. This is consistent with the OECD definition and is generally used for academic and policy purposes. The literature also presents the dichotomous concepts of radical and incremental innovation. Radical innovations involve revolutionary changes in product or process technology with the end result clearly different from anything already in existence. Incremental innovation, on the other hand, involves minor improvements or simple adjustments to existing products or processes (Dewar and Dutton, 1986; Tidd *et al*., 2001). Dewar and Dutton (1986) established that the major differentiating characteristics between the two types of innovations are the degree of new technological process and new knowledge embodied in the innovation. Damanpour (1996) extended the definition of innovation from new goods, services and processes to new markets, new organisational forms and new sources of supply. He argued that innovation covers activities that are performed in a different way to the firm's usual practices. Bhaskaran (2006) recommended that policy makers adopt a broader definition of innovation. Slappendel (1996) found that the concept of 'newness' is common to the various perspectives of innovation and Johanssen *et al*. (2001) noted that innovation depends on who perceives the act as new. They established that the bigger the size of the economic unit, the more likely it is to see its innovation as radical. Incremental rather than radical innovations may be appropriate to hostile environments. This position is explored in this study. Following the ABS, a broad definition of innovation is adopted as new or improved changes in any area of the business. However, unlike their definition, innovation is seen as changes perceived by the owner-manager as new.

Understanding the innovative activities of rural small business in hostile environments should enhance intervention programs for the sector. This is important for maintaining the sector and its contribution to sustaining rural communities. Australia's rural regions account for almost three-quarters of its annual export earnings (Australian Government, 2012). Their sustainability is critical to the economy as a whole, and the small business sector is important to this process.

4. RESEARCH QUESTIONS

The descriptions of the environment of small businesses in NSW cotton communities during the drought points to a hostile environment. Similarly, the challenges encountered by small businesses in the diversified cotton communities of Queensland suggest a harsh and uncertain environment with small but diverse markets, i.e. hostile environments. It is assumed that small businesses can adapt to these environments through the innovative strategies they adopt. These in turn depend on resources at their disposal, especially unique resources, including their owner/managers' personal objectives and characteristics.

This study ascertains the innovations implemented by small businesses in response to challenges posed and opportunities presented by the drought and mining operations. For a good understanding of the activities that participants describe as innovation, the study began by exploring their perceptions of innovation. The research questions addressed were:

1. How do owner/managers in cotton communities describe innovation?

2. How did small businesses survive the drought? What innovations did they implement in response to opportunities and challenges in their environment during the drought?

5.RESEARCH METHOD

The study employed an interpretive paradigm and qualitative methodology involving focus group meetings with owner/managers (see Cooksey and McDonald, 2011). An open-ended and semi-structured questionnaire was developed to guide the meetings in six cotton communities: Warren, Wee-Waa, Moree in NSW and Emerald, Dalby and St George in Queensland. These communities were representative of the diverse characteristics of cotton communities in Australia. For example, Warren and Wee-Waa were small towns with 2011 populations of 1 599 and 2 089 respectively. Emerald (16 666) and Moree (13 429) on the other hand were relatively large towns. Emerald and Dalby had diversified economies with significant secondary sectors while the others were agricultural-based. Wee-Waa, Moree and Warren accounted for a greater share of cotton production than St George, Emerald or Dalby. Agricultural produce was more diversified in St. George than the cotton producing towns of NSW.

The Chamber of commerce executives in each community were contacted to nominate business owners for the meetings. Snowball sampling was employed, ensuring that participants were consistent with the population of interest:i.e. businesses that had survived the drought. The nominated business owners were contacted and a convenient day and time scheduled for the meeting. Between 8 and 10 participants were selected in each town, however, the actual number of participants ranged from 4 to 7. In total, information was gathered from 32 participants.

The meetings began by asking participants to complete a questionnaire on their personal and business characteristics. There were also two open-ended questions requiring them to explain innovation and provide examples of their innovative activities in the last five years. Answers to the open-ended questions were subsequently compared with information from the focus group discussions to check for social desirability effect in the group discussions. The answers on the questionnaires were consistent with what participants shared in the discussions.

A third of the participants were female and the majority (87%) were aged between 40 to 59 years. Three participants were between 30-39 years and one was 60 plus years. About 75 percent were high school or year 10 graduates, 6 had university degrees and 2 had TAFE qualifications. Four participants owned 2 businesses each, 2 owned 3 businesses each and the rest owned one business each. Equivalent full-time employee numbers ranged from 2 to 18 with an average of 7 employees. Ninety percent of participants were dependent on the agricultural sector to a significant extent for their markets. Participants were from diverse industries including agricultural machinery sales, hardware retail, construction and engineering, clothing retail, grocery, accounting firms, real estate agents, gifts shop, mechanics, transport companies, car dealership, commodity brokerage and pharmacy.

Ethics procedures were followed and participants assured that information provided will be treated confidentially and their identities protected in any ensuing publications. The meetings ranged from 1.5 to 2 hours and participants were encouraged to discuss and probe issues in depth. Permissions were given by participants to record the discussions. The recorded discussions were transcribed and analysed by coding, categorising and identifying themes within the categories (Babbie, 2004).

6.FINDINGS

The findings are presented in two subsections: i) themes on the concept of innovation and ii) types of innovations implemented in response to opportunities and threats in the environment.

6.1.THE CONCEPT OF INNOVATION

At all the meetings, innovation was seen as necessary for adapting to changes in the business environment. The general consensus was that innovation required flexibility in operations to enable businesses to respond to changes in business climate and product and business life cycles. Participants recognised that they had to assess strengths and weaknesses of their businesses against the opportunities and challenges in the external environment. This was necessary to ascertain gaps in the business's adaptive capacity which were then addressed through innovation. Participants noted that an understanding of the business environment was therefore critical. In this regard, participants in Wee Waa referred to the usefulness of a business retention and expansion survey (Mackey, 2006), which identified opportunities for expansion and measures to mitigate threats in the environment.

Participants in all six towns noted that innovation was triggered by events in the external environment so that innovation was portrayed as a reactive rather than proactive process. It was held that innovation was especially necessary in uncertain, hostile and turbulent environments. Participants indicated that they would not feel pressured to innovate in a stable environment. In consonance with this, a participant alluded to Australian farmers being pushed to find innovative solutions to their problems because they receive relatively less government subsidies compared to their counterparts in Europe and the United States.

The issue of innovation as a reactive activity was probed further in one of the meetings. The question was whether reacting to external factors, which is necessary for survival, should be seen as innovation compared with proactive activities that emanate from the creative process. A participant concurred that innovation required thinking outside the box and brainstorming novel ways of doing things. Further analysis of the question led another participant to conclude that innovation was innate, originating from individual business owners. The participant saw innovation as a product of self-reflection and a desire to do things differently in order to increase rewards for all involved. She noted that in small business, innovation was tied to the personal objectives of the owner(s). The participant explained further that despite the central source of innovation, the associated vision must be sold to others to be realised. Moreover, employees must be involved in developing and implementing the vision and outcomes shared with them.

At another meeting, participants described innovation as a holistic process that required: access to capital, especially debt and equity from financial institutions and investors; employee involvement in the implementation process; and convincing customers to accept the associated product and service. In this respect, innovation was perceived as resulting in new products or services. In contrast to this position, during the third focus meeting, participants argued that innovation did not have to be expensive and could involve incremental changes that moved the business forward. Innovation was described as ongoing and progressive, occurring in leaps and bumps through an incremental but disjointed creative and evolutionary process. A participant mentioned that innovation involved working on the business rather than working in it. Strategic thinking was seen as central to the innovation process. As small business owners, participants identified that attending to the operational aspects of the business was necessary but took time away from innovation and strategic thinking. They noted that after a point in time operating the business became spontaneous, contrary to the reflective processes associated with innovation.

In summary, innovation was seen as involving radical changes that lead to new products, services or processes as well as small incremental changes that evolved into innovations over time. It was associated with owner/manager personality characteristics and necessitated by opportunities and challenges in the external environment. Innovation was more important in hostile, turbulent and dynamic environments than in stable environments. Information gathering and processing were critical to innovation which often comprised minor changes to daily operations in a cumulative process. The innovations shared by participants are discussed next.

6.2 FORMS OF INNOVATION

The participants discussed several forms of innovations. The majority were incremental in nature. However, there were initiatives that could be classified as radical innovations and involved new organisational structures and new market development. Participants were most concerned with attracting and retaining customers and employees, managing accounts receivable, and minimising operating costs. Their innovations were therefore aimed at addressing these issues. These innovations are presented below, organized into the five areas of: market positioning, marketing, human resource management, operations and networking.

Market Positioning

Some participants in NSW implemented strategies to draw customers from surrounding towns. For example, businesses in Warren extended their promotion efforts to Nyngan and Quambone to replace customers lost to the big shopping centres in Dubbo. A bus operator who transported passengers from the ‘country’ to the main cities developed an alliance with a tourism business in Sydney to increase passenger numbers on his return trips by transporting tourists from the city to the country. An accounting business diversified its operations and expanded its markets by merging with three other businesses: another accounting firm, a marketing services firm and a human resource service firm. The aim was to use its good reputation in the town to become a ‘one stop shop’ for business services. It moved to a bigger premise, installed new computer systems and transitioned from a manual to electronic file storage system. More employees were recruited and a new training program implemented to raise employee performance to levels consistent with the new business. A new pricing structure was developed to reflect the new image and enhanced service quality. Furthermore, a new promotional strategy was used to draw potential customers' attention to the new business and to persuade them to purchase the services. In effect, changes in all functional areas ensured alignment with the strategic developments.

A clothing retailer also repositioned her business by adding a line of work wear. She targeted the large working population with high quality but affordable clothing and drew customers from the surrounding towns. A gift shop owner had begun to stock rare items purchased from a wide range of sources including trade fairs and the internet which she sold at high margins. The careful selection of stock combined with regular changes in store layout attracted customers and increased sales. A real estate franchisee in a mining town took advantage of a period of declining business values during the global financial crisis (GFC) and purchased another real estate franchise unit from a separate franchisor. She expanded her business and diversified franchisors to reduce risk.

In contrast to these successful radical changes, the risks of market expansion in the hostile agricultural towns became evident when a construction business owner shared how he had lost money from sales to a new customer who became bankrupt. Another participant with a hardware shop embarked on business diversification by starting a turf farm and encountered several difficulties. Inadequate attention to the hardware shop coupled with declining demand led to decreased sales. These setbacks, combined with the long operating cycles for the turf farm, severely drained capital and threatened viability of the two businesses. The participant complained of long working hours, stress and a sense of loss.

Marketing

A number of participants explained the low cost but effective media used to promote to their target markets. The accounting business discussed above employed the services of its newly acquired marketing division for its internal needs. While it rarely engaged in promotions before the mergers, it embarked on an active promotion campaign covering sponsorship of sporting and educational events in the community. These provided opportunity to meet potential clients. In addition, advertisements in newspapers enabled the business to expand its customer reach. Another participant reminded customers of his business by providing them a set of coasters bearing the business logo. He also advertised in local newspapers and on the radio. A grocery shop owner put up a signage to inform customers of the new business image and held a celebration sale. Some retailers organized theme days (e.g. festive shopping evening, business birthday parties, and mother's day morning teas). Refreshments were served and discounts provided on products to increase sales. Several participants used word of mouth promotion by investing in customer service throughout the sales process, starting with first contact with customers to after sales follow ups. Some of these promotional activities were new to the businesses and therefore considered innovations by their owners.

Participants from one of the mining towns referred to the dual pricing system where goods and services were charged at higher prices to mining companies than to other businesses. They attributed the price differentials to the high cost of doing business with mining companies, especially the cost of investing in systems and procedures required to qualify for contracts from mining companies.

To enhance customer service, a mechanic provided coffee vouchers to customers so they could have coffee while waiting for their vehicles to be serviced. The owner of a hardware shop went to great lengths to satisfy all customers. He often placed orders for goods not stocked by the business and sometimes bought from competitors to on-sell to customers. He explained that this helped maintain customer loyalty during a period of low sales. A participant practiced companion selling to increase sales, persuading customers to buy related products that would enhance performance of a purchased product. The effectiveness of extending trading hours to increase sales varied among participants. A health service provider was able to increase sales by trading 7 days a week. In contrast, a retailer found that when trading hours were extended, the same customers shopped at late hours, so that costs rather than sales increased.

Several participants provided customer credit to retain customers although this tightened their cash flow positions. A grocer allowed customers to pay by instalment. Another participant sent out invoices soon after services were completed and required payment by month end.

More than half of the participants had increased their use of the internet for various aspects of operations. Some had developed websites to promote their businesses and increase sales. Others took orders by email, purchased supplies online, and/or provided resources to customers online.

Some participants used social media to promote their businesses. One participant searched for cheap sources of supplies online and others accessed information on competitors from the internet. The internet was also a source of ideas for innovation.

Human Resources

It was important to some participants to access the quantity and quality of staff required at the minimum possible costs. Recruiting and retaining good employees was particularly challenging. An accounting firm recruited high school (year 12) graduates into traineeship programs. It paid for their university education and provided them permanent positions in the business after graduation. The strategy enabled retention of skilled employees in a tight labour market. Following a similar strategy, a construction business met most of its labour needs from apprenticeship programs but allowed apprentices to leave after completing their programs. As a result, it constantly replaced and trained new apprentices. Another construction business owner suggested that 18 year old or younger employees could be more readily 'moulded' to their job requirements. Some participants had recruited employees under the 457 visa program and others used Backpackers as a source of cheap labour. Again, some participants outsourced operations to reduce costs and others maintained their hard to find skilled employees during periods of low output, paying full wages.

A participant announced that he spent as much as 50 percent of his wage bill on employee training, using a variety of training providers. These included product representatives (for effective use of products) and a business coach (for employee training needs analysis and development of training programs). The ultimate aim was to empower employees to own the business processes and to undertake key business operations with minimal supervision. The participant found that on-the-job training and in-house but off-the-job programs were effective for low level technical employees and apprentices with up to year 10 qualifications. These employees, usually at the start of their careers, had low self-esteem and these programs encouraged them to overcome their fears and concerns. The participant stated that external training was necessary to improve employee productivity. Given that small businesses are generally reluctant to spend on employee training (Kotey and Folker, 2007), the position taken by the participant was innovative.

A number of employee motivation and retention strategies were shared. A partner in a professional service business discussed the business vision and shared performance goals with employees, encouraging them to participate in their achievement. Employees were empowered to be creative and to perform with minimum supervision. Another participant was of the view that if employees could relate to the business culture they would remain with the business. Consequently, specific attention was given to 'person-business fit' during selection. To bridge the gap between the high wage paid by mining companies and what she could afford to pay her employees, a real estate agent encouraged her employees to take up second jobs. In an engineering business, employees were rewarded if they came up with new ideas that improved business performance. The reward increased at various stages of the idea implementation.

Operations

With the need to conserve resources and increase sales, inventory management had become very important to participants. Following observation of items purchased and attention to inventory, some retailers introduced new product lines and eliminated slow-moving lines. A mechanic found it cost effective to reduce inventory and adopt a just-in-time system, scheduling work for the whole week and ordering parts required to complete them. Inventory was reduced by as much as 40 percent and the extra waiting time for customers did not deter them from using his services. Another participant purchased inventory in bulk, about three months' supply. Although this tied up capital, it reduced cost and prevented stock-outs. A participant purchased supplies locally and was able to increase sales through referrals from the networks that were developed. The low freight costs and increased customer following exceeded possible savings from cheap supplies from external sources. Retailers found that regular stock-take and management of slow-moving items reduced capital tied up in inventory, especially obsolete inventory. Frequent changes in store layout drew in customers looking for new items and bargains.

A participant portrayed a 'green' image by using digital pens for field notes which were emailed to the office. The notes were ultimately stored on a server rather than filed in a cabinet. Gas-powered vehicles and energy-saving bulbs were used and frequent checking ensured that lights not in use were turned off.

Networking and Sources of Support

Participants aligned themselves with various strong tie networks that supported them through difficult periods. Others used their networks to gain customers. One mechanic joined a web-based industry group that held weekly planning meetings. He gained from shared ideas, information on industry trends, discussion of industry problems, and brainstorming sessions for new ideas. The 300 members of the network organized to import supplies in bulk. They benefited from the lower costs and greater control over product quality than they could obtain from their original internet suppliers. Bulk purchases provided members competitive advantage over the internet suppliers who also sold directly to customers. Not only were the network members able to sell parts at prices commensurate with the internet suppliers but the services they provided enabled them to draw customers from the internet suppliers. It was important to another participant to be present or represented at social functions in the community. This provided opportunities for promoting the business and was essential to maintaining an image of 'one of us' to attract customers to the business. Some participants stayed out of extensive networking in order to guard trade secrets. They felt this was necessary in small towns where growth of a business occurred at the expense of others.

7. DISCUSSIONS AND CONCLUSIONS

The study investigated owner/managers views on what is meant by innovation and the innovations they implemented in the hostile rural environment of Australia to overcome the negative impacts of the drought. It found that owner/managers in rural communities viewed innovation as not limited to radical changes but to also cover small incremental changes to daily operations necessary for survival. The drought was the main trigger for the innovations and participants stated that they would not feel compelled to innovate in stable environments. Innovations were undertaken in response to challenges in the environment, especially shrinking markets and resource scarcity. Participants felt that it was necessary that they understood conditions in their environment for effective response through innovation.

The innovations implemented were mostly incremental and were aimed at attracting and retaining customers and enhancing operating efficiency. Incremental innovations enabled resource conservation while providing competitive advantage in the face of scarce resources, declining markets and slim profit margins. They were associated with promotion, new market development, customer service, and customer credit. Participants also implemented innovations to access labour and supplies at low cost and to manage inventory effectively. These were in consonance with activities recommended by Covin and Covin (1990) for hostile environments.

The radical innovations implemented covered business acquisitions and mergers, new branches of the same business, pursuit of new markets, new product lines and product diversifications. They were highly risky in an environment of scarce resources and slim profit margins. Some of the businesses that embarked on these innovations suffered losses. Radical innovations were therefore possible in hostile environments but required careful planning, information gathering and clear understanding of the environment. These innovations also required access to relevant resources. According to Friar and Meyer (2003), businesses pursuing radical innovations are those relevant to economic development. For the communities examined, these innovative pursuits generated employment growth and provided the diversifications necessary to overcome some of the adverse effects of the hostile environment. Radical innovations must therefore be encouraged and supported in these hostile environments. Incremental innovations are necessary to sustain businesses so that they can continue to contribute to their communities but are insufficient to move the community forward.

It was clear from the focus group discussions in Warren and St George and from the empty shops in many of the communities that several businesses had not survived the drought, selected out by their hostile environments. In comparison, the innovative activities of participants in the focus meetings enabled adaptation of their businesses to their hostile environments, enhancing survival and even growth. This provides support for the strategic adaptation theory. The innovations or unique resources developed by some businesses provided competitive advantage. These include the 'one of us' and 'one stop shop' image of the accounting firm, the networking activities of the mechanic that provided access to cheap supplies, the ability of the gift shop owner to identify and access unique items, and the grocery shop that allowed customers to buy on credit and maintain accounts. Participants recognized that their visions and personal efforts were critical to survival of their businesses. These findings show that businesses are not entirely at the mercy of their environments but through innovative strategies and development of unique resources they can adapt their businesses to hostile environments.

In addition to direct support to help businesses deal with the drought such as the exceptional circumstance payments to businesses and farmers (Department of Agriculture, Fisheries and Forestry, 2012), greater attention to the rural environment in the form of improvement in infrastructure and social amenities should enhance innovation among small businesses and increase their resilience to adversities. Participants noted that certain inherent characteristics of their towns such as poor infrastructure and social amenities hampered innovation and intensified the effect of the drought. Poor road and rail networks, unreliable air freight services and inadequate communication systems prevented regular links with major cities, limiting access to markets and resources. In communities such as Moree and Emerald where infrastructure was relatively more developed, small business incomes were higher than in communities such as Warren with less developed amenities. Levies on produce from the major industries can be used to support infrastructure development. This initiative must be pushed by the communities working through their local governments. The government can encourage growth in population and therefore markets by providing tax breaks for businesses and people who relocate to these areas.

In summary, the findings show that small businesses in the rural towns responded to their drought affected hostile environments through incremental and piecemeal innovations. These were aimed at maintaining customers, possibly growing their markets and enhancing operations efficiency. They were necessary to conserve scarce resources and improve thinning profit margins. Business owners felt compelled to innovate for survival of their businesses. They indicated that they would not have implemented these innovative activities in stable environments.

A few businesses undertook radical and risky innovations and added significant values to their businesses and communities. These innovations included business expansions through mergers and acquisitions, and product and market diversifications. Product diversification that involved an entirely new business was extremely risky. Market diversifications were also risky where the credit ratings of new customers were not adequately assessed. While radical innovations added value to the communities by absorbing retrenched employees, they needed to be well planned. Risks had to be clearly identified and mitigating strategies defined before the innovations were implemented. Advice on these issues may not be readily available to businesses in rural communities.

In addition to drought relief programs and business support services, attention to the poor infrastructure and amenities in these rural communities will help alleviate some of the barriers to innovation. Business owners must work with their local leaders to create an environment conducive to business innovation.

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