



Innovation in Regional Manufacturing: a Hunter Based Study

Paper Presented at the

Australian Regional Development Conference

Albury (NSW), 26 – 28 Aug 2015

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ABSTRACT:

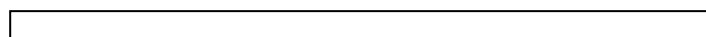
AIM: *Identify enabling factors and barriers to competitiveness and innovation for Hunter manufacturers.*

BACKGROUND: *Recent local and national trends highlight that the future of regional manufacturing will lie in firms enhancing their international competitiveness, having an export market focus and integrating services with their manufactured products. Success will also increasingly depend on the ability of individual businesses and the region to compete on innovation. Particular challenges include difficulty in accessing funds for research and innovation and difficulty tapping into new knowledge.*

METHODS: *In-depth interviews were undertaken with a convenience sample of 45 Hunter-based manufacturing firms to understand more about the enablers and barriers to competitiveness for Hunter manufacturers and identify ways in which innovation can be encouraged. The Hunter manufacturing sector like many regions within Australia is dominated by small to medium size enterprises. Many spoke candidly about their experiences under challenging market conditions.*

RESULTS: *The results indicate that while innovation of new processes is seen as essential to increase efficiency and revenue of firms and is internally driven, innovation of new products or services develops in a more ad hoc manner largely in response to customer needs. Funding innovation was consistently raised as a problem, while collaboration, within work teams, customers and research organisations, was seen as a potential facilitator of greater innovation. The study concludes with suggested ways forward for firms and policy-makers to promote greater innovation of processes, products and services within regional Australia's manufacturing sectors. These include regional strategies to promote collaboration and partnerships between firms and research and training hubs, and greater opportunities for business mentoring, particularly in medium to long-term strategic planning.*

Keywords: *Manufacturing, innovation, management, regional employment, small and medium enterprises.*



Introduction

Within Australia and the Hunter Region goods producing industries such as manufacturing make a substantial contribution to employment, exports and generating new-to-the-world products (RDA Hunter, 2014). In the Hunter, manufacturing is the third largest industry of employment, behind health and social assistance, and retail trade. This is despite the headwinds the sector has faced through increasing international competition, exacerbated by the strong Australian dollar, and most recently the downturn in mining investment in the Region. The majority of the Hunter's manufacturing employment is in small/medium enterprises (SMEs) in machinery and equipment manufacturing, and primary metal and product manufacturing sectors. Recent local and national trends highlight that the future of regional manufacturing will lie in firms enhancing their international competitiveness, having an export market focus and integrating services with their manufactured products. Success will also increasingly depend on the ability of individual businesses and the region to compete on innovation.

In early 2014 the 'Regional Competitiveness – Manufacturing' project was developed by the Hunter Research Foundation in collaboration with an industry-based Stakeholder Advisory Group. The overall research question was to identify what is needed or can be done at a regional level to support local manufacturers to broaden their customer base and connect into global supply chains. The objective of the project was to identify ways in which Hunter manufacturing can be strengthened including recommendations for policy makers and insights for individual organisations to use in their future business planning. The results of this qualitative study are presented here, with a particular focus on innovative practices and enablers of innovation amongst Hunter manufacturers.

This paper is structured as follows: Section 1 provides a brief overview of the relevant national and international literature on innovation and state of play in national manufacturing, Section 2 outlines the project methodology, Section 3 provides an overview of findings in relation to innovation within Hunter manufacturing and Section 4 concludes with a discussion of potential policy implications and opportunities for the future of manufacturing within the Hunter.

Innovation and Manufacturing

Innovation is increasingly seen as necessary for long-term job creation and economic growth (OECD, 2011:109). Trends in national innovation policies are emphasising the important role of regional processes which are collaborative and place-based (OECD, 2011:110). Recent research into performance within the manufacturing sector points to a correlation between innovation and revenue growth; with the most innovative manufacturers overall growing significantly faster than the least innovative (Price Waterhouse Coopers (PWC), 2013:4). Such pressures are only likely to increase with the advent of ‘advanced manufacturing’ marked by highly agile, networked organisations that use information and analytics as much as they do talent and machinery to deliver products and services over the product-lifecycle to global markets (McKinsey, 2012:1; CEDA, 2014).

However pressures on Australian manufacturing have been mounting over the last few decades (Report of the Non-Government Members, Manufacturing Taskforce, 2012:18-20). These include: a high dollar eroding competitiveness, rising costs such as energy costs and poor productivity growth, tougher competition from emerging economies and the adverse impact of the global financial crisis, an associated slowdown in related areas of domestic demand and the recent waning of the resources cycle, especially pertinent for mining and resource dependent regions such as the Hunter.

The OECD characterises Australia’s linkages to global value chains as weak, not as a result of volumes of Australian exports, but because our exports are increasingly concentrated on unprocessed minerals and fuels. Australia’s current competitive strengths are mainly in low–medium technology manufacturing, where we are innovators. Australia’s success in advanced manufacturing is likely to be in specific niches, with opportunities in high value-added products and services (Non-Government Taskforce on Manufacturing 2012:13). Part of the difficulty for the Australian manufacturing sector and the Hunter in particular is that it includes a disproportionate number of small firms, many of which operate in small markets, resulting in fewer economies of scale and lower productivity (Non-Government Taskforce on Manufacturing, 2012:14). Australia’s scale and remoteness further work against competition, innovation and export growth. The Report from the Non-Government Members of the Prime Minister’s Manufacturing Taskforce (2012:15) indicates that this may explain why “Australia is not generating the pool of innovative, globally oriented medium-sized firms that underpin

dynamic, thriving economies.” The acceleration in the pace of change in information technology creates special challenges for Australian SMEs who often lag behind in the adoption of Internet technologies and the skills base required to successfully adopt these technologies (Adams *et al.*, 2014). However other work by the OECD (2007) examining the concept of regional innovation systems, explores the role of SMEs in innovation. It highlights that small firms are often more aware of niches or emerging markets than are larger firms. Small firms very often support larger firms in research and development activities, particularly where this expertise is not available in the larger firms or it has declined in favour of production activity (OECD, 2007:84).

Samson and Gloet (2014:6460-61) outline a number of factors related to an innovative SME, these include the presence of:

- *Innovation strategy* including elements of strategy; resources for innovation; customer focus; balance between large and small scale innovation and developing an appetite for risk.
- *Innovation processes* including change management; external partnerships, quality practices and philosophy and a sustainability focus.
- *Innovation rewards/recognition* including attracting and retaining high-quality employees; recognition of innovation contributions; and staff for innovation.
- *Innovation measures/payoffs* including measurement of innovation activities and innovation performance in the form of new products and/or services.
- *Innovation behaviour/culture* including values and culture to support innovation; change focus; learning culture; tolerance of failure; creativity and lateral thinking.

International and Australian research has highlighted the value of human capital management practices in promoting innovative work cultures in building the innovative capacity of firms. These include high performance work practices for improving business performance (van Wanrooy, 2014). Typically not requiring extensive capital outlays or R&D commitments, such practices are focused on: a) improving employees’ knowledge, skills and abilities, b) motivating employees to perform and c) providing employees with the opportunity to contribute to how their work is done. A study of more than 1,000 manufacturing SMEs, commissioned by the Australian Government Department of Industry, found only 37 per cent of manufacturing SMEs were identified as having a “moderate” system in place. That is, at

least four practices of each of the three types listed above. The researchers did not find a manufacturing SME in Australia that had a “strong” system in place. However the survey found for every additional high performance work practice that was used there was an increase in profits, quality of products and services, labour productivity, innovation and customer satisfaction, as well as an improvement in relationships in the workplace.

The OECD Regional Outlook (2011) emphasises the central role of regional policies, in addition to the practices of individual firms, for realising the innovation potential of local economies. A highly skilled workforce is necessary to support innovative activity, and those regions with most capacity to innovate are those with a labour force that is skilled and adaptable. It also highlights the importance of network models of innovation, and that “public authorities tend to favour policies that encourage inter-firm cooperation, rather than provide direct financial assistance to individual firms” (Freel *et al.*, 2006:293) in most OECD countries, see also Woolley and Eversole (2013).

Methods

Stage 1 of the ‘Regional Competitiveness in Manufacturing’ project commenced with a review of global factors impacting on manufacturing, and recent national and international trends that apply in the Hunter. A small number of in-depth interviews were also conducted with industry groups and local innovative firms identified as having effectively dealt with some of the challenges facing the manufacturing sector. Using the outcomes of Stage 1 and in consultation with the Stakeholder Advisory Group, the project objectives and research questions for Stage 2 of the project were refined. This report outlines the tasks undertaken in the second stage of the project and the research findings.

The focus for Stage 2 of the project was to understand more about the barriers and challenges facing local manufacturers, how the levers to positive change nominated in Stage 1 of the project were being used and to provide an evidence base for collaboration with key stakeholders in developing targeted regional initiatives that will support Hunter manufacturers to be more competitive.

More specifically, the objective for this second stage was to undertake in-depth interviews with Hunter-based manufacturing firms to identify:

- enabling factors and barriers to competitiveness for Hunter manufacturers

- ways in which innovation and business planning is being undertaken
- participation in global supply chains
- suggestions for initiatives or strategies to support Hunter manufactures.

The question path was designed to support semi-structured in-depth interviews that would explore the themes and key levers. Topics included:

- Key products and services, staffing and ownership
- Current market drivers, customer base and profitability
- Changes in the business and main challenges over the last five years
- Development of new or improved processes, services or products
- Collaborations and planning for the future
- Regional initiatives to support Hunter manufacturers over the next 5 - 10 years.

A copy of the interview structure is shown in Appendix 1.

The sample was selected from membership of industry organisations. The initial sample was expanded via additional contacts provided by respondents. The sampling aimed to reflect the range of sub-sectors, size, ownership and location of manufacturing firms in the Hunter Region. Start-up firms and those providing manufacturing maintenance services were included in the sample. Firms currently seeking an exit strategy were to be excluded from interview however no firm contacted clearly indicated they were in the process of closing their business. In-depth qualitative interviews were conducted with 45 Hunter-based manufacturing firms. The interviews were conducted onsite at the participating businesses with the exception of one interview conducted by telephone. The interviews were approximately 45-60 minutes in duration and undertaken 21 July – 15 September 2014. Participant responses were recorded with handwritten notes and, where possible, respondents were asked for permission to record the interviews. If permission was given, interviews were recorded to assist data collection and analysis.

A Stakeholder Advisory Group was established to guide the development of project within the context of other initiatives occurring in the region, promote the project through their communication channels, and participate in the design, promotion and implementation of regional initiatives based on the project findings. Members of the group included Ai Group, HunterNet, NSW Trade and Investment, Hunter Business Chamber, Regional Development

Australia Hunter, Hunter TAFE, University of Newcastle, AusIndustry, NSW State Training Services.

Findings: Innovation in Hunter Manufacturing

With regard to innovation, firms were asked directly whether they had “*developed a new or significantly improved process, service or product in the last 5 years*” and were prompted to expand on what these new products or services were and how they made this innovation happen. Firms were further asked to reflect on opportunities for innovation (developing new processes or products) within the firm. Analysis of the interviews indicated that innovation also emerged as an important sub-theme in discussion of the firm’s value proposition (their unique advantage or value in the market place), how the firm utilised networks and collaborations and how firms addressed challenges and opportunities in terms of future business planning. A number of common themes emerged in response to these questions.

Broadly innovation can be divided into *product innovation* or *process innovation*. The OECD (<http://www.oecd.org/site/innovationstrategy/defininginnovation.htm>) defines product innovation as a good or service that is new or significantly improved, such as significant improvements in technical specifications, components and materials, software in the product, user friendliness or other functional characteristics. A process innovation is defined as a new or significantly improved production or delivery method, such as significant changes in techniques, equipment and/or software. Innovation of new products or services was driven internally in some cases but more often in response to customer requests to develop solutions. Once developed, a major challenge was the ability to commercialise and market the product. Innovation of new processes was seen as essential to increase efficiency and in particular, to offset the cost of wages. The majority of participating manufacturers acknowledged the importance of continuing to improve processes. Process innovation was being driven internally, by individuals and/or teams. Automation, robotics and mechatronics were seen as key to process innovation.

Manufacturing has always included a range of activities in addition to production, increasingly service-like activities, such as R&D, marketing and sales, and customer support have become a larger share of what manufacturing companies do (McKinsey, 2012:7; Adams *et al.*, 2014). Providing services can help generate revenues and maintain margins during downturns, as strong service offerings can help improve product sales, with many customers showing a preference for those products with tailored service offerings. Research by PWC (2013:10-11)

highlights that products are still the primary focus for innovation amongst many industrial manufacturers and relatively few have business models, customer experience or access to supply chains at the top of their innovation priorities. An understanding of the importance of marrying new or enhanced services ('service innovation') with traditional products can significantly enhance the value of the product delivered to the customers. "The 'service leaders' who are able to offer new or expanded services as a real value add – performed better financially with more stable results. Service followers' who see services merely as an extension of their product portfolio lag behind in financial performance" PWC (2013:11). A shift to the provision of services, complementary to products, was identified in a number of our successful manufacturers, and in one case the shift to a sales and marketing focus represented a fundamental re-orientation of the business model:

"We changed from a manufacturing business that happened to sell, to a sales and marketing organisation that happens to manufacture."

A culture of innovation was strongest in more profitable businesses; developed through encouraging staff to be creative, identifying new ways of doing things, and being transparent about the results and successes. Creativity is particularly important given SMEs in the manufacturing sector often develop competitive advantage through their staffs' creative potential to develop differentiated products for niche markets (Terziovski, 2010; Damanpour 1992 and Fuchs *et al.*, 2000). The literature supports the notion that an innovation culture can be fostered systematically, where it becomes second-nature for employees to source innovative solutions to challenges and to engage in continuous improvement (Samson and Gloet, 2014:6461).

"Our innovation culture, what we do, is a way of life, it's a way people think and engage in the complexity of what they do. It's an innovation in how you talk internally, present something to a customer. It's an innovation in a product you see on the internet and think wow I could save \$50 on every machine or an hour...our innovation and thought processes on innovation are across every aspect of the company, through to the accountants"

"We think of ourselves much more as an innovation and commercialisation organisation than we do as a manufacturing organisation"

"The culture which you instil in a business has to be apolitical... people wanting to be honest ...and have fun/recognise and reward results, celebrate success be it big or small"

"We innovate across every aspect of the business, packaging, ways of interfacing with the customer, marketing and web-development...we try and develop a culture of innovation"

"We have a good culture of the tyranny of good ideas...every idea gets up and we contest for good ideas"

However successful innovation requires an element of risk and the organisations studied demonstrated an appetite for risk that was consumed within carefully managed boundaries (Samson and Gloet, 2014).

Amongst successful innovators changes in human resource management practices were highlighted as a key to cultural change which supported innovative thinking, including: encouraging staff ownership of new ideas from the ground-up and ensuring ideas generated by staff had a means to progress to senior management, upskilling of existing staff, a focus on soft skills as well as technical skills, regular leadership updates and transparent and non-hierarchical management structures.

“We really encourage innovation in thinking; encourage staff to bring forward ideas - be it big or small, silly or not so silly - both over the external sales team and our internal operations”

“The soft skills are always the issue. When I was a lad and graduated I was an engineer and that’s what I did – you wrote your report, handed it to the typing pool, the typing pool typed it and you handed it to your bosses – there was all of these processes. Now we expect everyone to do everything, marketing, sales and do everything on a budget...”

“It’s taken three years of solid work from a human-resource, marketing, innovation point of view. People are looking for a way to fill their order book; the reality is that it takes a financial and emotional commitment of all people involved”

“We don’t have a skills gap... where we need skills we encourage our employees to get in and do new things”

Samson and Gloet (2014:6456) identify that leaders/managers can provide direction and focus, acting as role models for innovation across their workforce and operations, and in taking a hands-on approach to innovation activities. They can promote innovation by measuring it and provide recognition and rewards to staff for contributions to innovation. Such innovativeness is attractive to labour market participants, allows these organisations to attract and retain talented people. Research shows that performance effects are amplified when bundles of high performance work practices, improving employees’ knowledge and skills, motivating employees to perform, and providing employees with the opportunity to contribute to how their work is done, are deployed as a system (van Wanrooy, 2014; Centre for Workplace Leadership, 2014).

Howell (2005) also identifies that champions - individuals, often middle-level management or lower, who promote an idea with conviction, perseverance and energy - can be key to innovation speed and success. The importance of champions in driving organisational change was supported in our findings.

“We had a handful of people creating a negative environment...we didn’t engage with the naysaying and negativity, because when you are right, you are right...you’ve just got to get in and champion it through”

Funding of innovation was consistently raised as a challenge. In-house driven innovation required cash flow within the business or access to research and development (R&D) grant funding. Customer driven innovation enabled businesses to charge customers in the first instance however additional funding or cash flow was then required to expand from a customised product to a commercial product. Manufacturers recognised that innovation required investment in research, skills and equipment, however also discussed the need to be able to increase orders to maximise the investment and recoup costs. Process innovation was seen as less risky than product innovation.

“With new products there’s obviously got to be demand for a new product, we don’t want a great product sitting on the shelf that doesn’t sell”

Access to R&D grants has been crucial for many businesses however the entry criteria and administration requirements often resulted in funding applications being ineligible or difficult and costly to manage. Suggestions were made for government and industry to support businesses prepared to take risk and foster innovation within manufacturing. Development of new products supports businesses to expand and generate new employment. Support from government could include tax breaks, low or no interest loans, and grants.

Issues of intellectual property (IP) and patents were raised by a few participants. Process for patent approvals can be time consuming and confusing. Several manufacturers indicated that they did not seek to patent new innovations as speed to market for new products was more important.

Networks and collaborations

“Most innovations do not go down a pipeline. Instead, they form in a network.”
Minifie (2014), ‘Innovation: Time for the Lucky Country to Make its Own Luck’.

Participating manufacturers agreed that networks and collaborations were a critical aspect of their business. Collaboration was seen as a key to innovation including within work teams, with customers and with research organisations. Collaboration with TAFE, universities and other research organisations provided access to skills, technology and potential sources of employees to foster innovation within businesses. The literature supports the notion that a firm’s range and depth of external relationships reflects the overall innovation focus of the business, as well as

being a source of innovation through the provision of new ideas, knowledge and skills. Innovative organisations generally partner with customers looking for innovative solutions, and who are prepared to pay a premium for such innovations. Collaboration is also an important part of building international linkages, and developing potential linkages to global value chains (CEDA, 2014). Innovative companies often work with their supply chain partners to extend their innovation efforts over a broader asset base (Samson and Gloet, 2014:6456).

“I’ve made some friends in the rubber [supplying] industry which have been useful...our supplier ended up giving a lot of good advice, other people have been very useful in giving me a lot of hints with no reward for them... and of course we’ve put in some late nights out there and thrown away a lot of rubber”

When asked about networks or collaborations that have been particularly useful a broad range of responses was given. Relationships with customers and suppliers were seen as the most important collaborations, with ongoing communication with current and previous customers a priority for most.

“A couple of recent R&D successes have actually been done in consultation with a customer...we’ve been a bit blessed in the respect that we’ve won a couple of those customers, we were up against some competitors, based on our ability and commitment to R&D and we’ve worked with the customer”

Collaboration with other businesses in their industry sub-sector and businesses located in the same geographic area was also important including collaboration with competitors. Some metal manufacturers identified these collaborations as a way to continue to operate in a declining market while one participant identified collaboration with other businesses as the key to his strategic business model.

Industry-based organisations and government agencies were identified by many participants as providing or having the potential to provide positive networks. Organisations such as Ai Group, Hunternet, Hunter Business Chamber, Austrade and NSW Trade and Investment were most often discussed in terms of their ability to identify new markets and customers, and to assist businesses in obtaining new orders. Priorities nominated by participants for Hunter focused organisations were the promotion of Hunter based businesses to national and international markets, attracting major projects and contracts to the Hunter, and lobbying State and Federal governments regarding the importance of awarding government contracts to Australian-based companies. As a secondary role, these industry organisations were viewed as important to providing networking opportunities amongst locally based businesses.

Feedback related to engagement with industry-based organisations included:

- Most participating businesses have successfully utilised industry-based organisations that provide employee relations and broader human resource advice.
- Some benefit has been gained from exposure to major projects and trade missions to regional and overseas areas, however few identified these contacts as resulting in new or increased orders. Participants were more likely to mention benefits including exposure to other local businesses participating in the activity, as well as information about local and global trends.
- Additional assistance from industry organisations to complete government business and industry accreditation requirements would be beneficial, including grant applications, Workplace Health and Safety (WHS) requirements, training and standards certification.
- Concerns were raised about the ability of member-based organisations to support new member firms or smaller firms. Some participating manufacturers felt that the level of support and exposure to potential business opportunities did not match the cost of membership.
- A few of the manufacturers have developed positive networks with universities and research hubs, while the majority indicated that they did not know how to go about developing these relationships. Future initiatives suggested by participants included development of business-research hubs and opportunities and assistance in developing links with universities and research organisations.

Strategic business planning

“For albeit a small business, there is a whole lot of corporate discipline in place around market strategy and planning and measurements and board meetings, with key financial results presented and analysed”

The literature has identified that innovation success starts with strategy and leadership, in which innovation is prioritised (Samson and Gloet, 2014:6456; Terzivoski, 2010). The interviews held with Hunter based manufacturers indicated that less than half of the businesses surveyed had a formalised strategic business planning process. Further analysis identified that a lack of strategic planning was associated with declining profitability.

Businesses that did have formalised processes were more likely to be experiencing steady or increased profitability.

Insights gained from this research that highlight the important role of business planning included:

- Businesses with formalised strategic plans were able to identify major competitors, market drivers, and short-term and long-term opportunities and goals.
- More optimistic businesses reflected strategic planning processes that benefitted from input by internal management teams, boards with independent board members and/or external advisors to the business.

Opportunities for the Future

Participants were asked for their ideas on what could be done collaboratively in the region to support Hunter manufacturers over the next 5 to 10 years. In suggesting potential regional strategies many interviewees highlighted the need to attract funding and provide greater financial support. A high priority was attracting major projects to the Hunter, including large infrastructure projects and contracts supported by better marketing opportunities across both global and local markets. Incentives and support for businesses from government and major industries, especially for the development of new industries and encouraging diversity across industries, were also identified as a necessary step forward in securing the viability of the region's manufacturing base. Suggestions were made for government and industry to better support businesses prepared to take risk and foster innovation within manufacturing - support from government could include tax breaks, low or no interest loans, and grants.

While attracting major projects to the Hunter and encouraging government contracts to be awarded locally were regional strategies for future growth favoured by metal manufacturers, the focus for non-metal manufacturers was on innovation through collaboration with universities, research-business hubs and access to funding for R&D. Recent Australian research drawing on an international evidence base highlights that an effective regional innovation system needs to include business, consultants and research institutions that keep pace with new knowledge and technology, while at the same time adapting to local needs (Connell *et al.*, 2014). Concentrations of inter-connected companies and institutions which are co-located and gain advantages through their co-location are referred to as industry clusters (Porter, 1998). Industry clusters with strong local and global business networks can

provide mechanisms for firm interaction (Ewers and Malecki, 2010) and foster competitive advantage (Simmie, 2008). In building greater university and business linkages another way forward may also be to establish a scholarship or other mechanism to support embedding third year or honours university students in firms. Discussion regarding innovation clusters and training also noted opportunities for increased development of the Hunter Region's mechatronics and robotics skill base. Increasing membership of the Ai Group/HunterNet Innovation Cluster and linkages with the University of Newcastle's Engineering Faculty, including its mechatronics research, and the Hunter Institute's robotics section, are seen as fostering this. Ai Group will be seeking the assistance of the NSW government to recognise the Hunter as a "Global Centre of Engineering Excellence" and to provide us with the funds for an international marketing campaign. Thus a key outcome from the project was a shared vision for a Hunter Manufacturing Region where firms are hooked into diverse global value chains, with an international reputation for quality, reliability, design and customer service. In this vision, collaborations and partnerships between firms, and research and training hubs generate a culture of innovation, and a highly skilled workforce underpins the Hunter's sustainable economy.

Incentives for increased employment and skills training were also commonly highlighted as a necessary regional strategy. A comparison of innovative and non-innovative firms indicated a willingness to improve staff knowledge, skills and abilities as an important internal factor in developing an innovative organisation. However, increasing employee training and skills were believed to be aspects which could be better supported externally by government and major industry. Interviewees, and our analysis of profitable and non-profitable businesses, also highlighted the need for further skills development particularly around business planning, marketing and innovation. There may be benefit in a business mentoring program, especially around strategic planning, human resources management and fostering an innovation culture. In its *'High Performance Manufacturing Workplaces Study'*, the Centre for Workplace Leadership (2014) outlined a number of specific initiatives which may assist business in this regard, including the provision of technical information and guidance as to how to implement better business and human resource management practices, dissemination of best practice case studies, incentives to support training for managers in SMEs and the development and maintenance of business information networks to "share information, engage in problem-solving and collaborate in best practice in work processes" (Centre for Workplace Leadership, 2014:9).

Industry based support may also assist businesses facing significant declines in profitability and increasing market competition to undertake critical business reviews and planning. Given the current high levels of competition in general metal manufacturing, some regional consideration should be given to supporting businesses that may need to exit the market.

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Appendix 1

Thank you for agreeing to this interview, and for your contribution to the project.

The Hunter Valley Research Foundation (HVRF) is collaborating with key stakeholders to develop targeted regional initiatives that will support increased competitiveness of the Hunter's manufacturers. The outcomes of this work will include clear recommendations for policy makers and insights for individual organisations to use in their future business planning.

The purpose of the current interview series is to understand how Hunter manufacturing firms are taking on the challenges to remain competitive and what are the barriers.

[Provide information about HVRF; Confirm recording interview to assist with documentation]

Main questions in bold

- Dot points provide areas to be covered and additional prompts

1. Could you please tell me first a bit about the firm?

- how long it has been in operation
- main activities
- number of staff
- ownership (locally owned, overseas/multinational, board, shareholders)
- what is happening with your profitability, is it going up or down
- prompt for an annual report

2. What would you describe as your key products and services?

3. Which of these do you think gives you a unique advantage or value in the market place?

- Prompt for unique skills, products, services; core capabilities

4. Who are your customers? Where are they located?

- Have you looked at other domestic markets?
- Have you looked at overseas/international markets?
- If yes but not currently exporting, why not?

5. Has your product and service mix, or your customer base, changed over the last five years?

- If yes, how have they changed?
- E.g. how have your activities changed; how has the nature and location of your customer base changed?

- 6. What changes have there been in your supply chain in the last five years?**
 - How have these impacted the firm?
 - Where are your major suppliers currently located?
 - Are you currently well positioned within your supply chain?

- 7. Who are your major competitors and where are they located?**

- 8. What do you think is driving current competition in the market?**
 - Prompt for differences between local and international markets e.g. price, quality, service orientation, timeframes, technology, innovativeness?
 - What is the major issue threatening your ability to remain competitive in the local and (where applicable) international market?

- 9. What have been the main challenges over the last five years and how has the firm addressed these?** (prompt for the following)
 - number and composition of staff
 - skills mix needed, availability of required skills, access to training
 - marketing services of products
 - need for further investment or access to capital
 - changes in processes

- 10. Have you developed new or significantly improved processes, services or products over the past five years?**
 - What were these? How did you go about making this happen?
 - Are there opportunities/other opportunities within your firm for doing things differently or developing new products?

- 11. How does the firm address challenges and opportunities for doing things differently within your future business planning?**
 - How far into the future do you plan for?
 - Do you have a formal business plan?
 - How was that plan developed? Information used to inform planning; in-house input or advice; use of outside expertise/skills; customers; suppliers?

- 12. Are there particular networks or collaborations that you have found useful?**
 - What were these and how did they provide support / opportunities?
 - Prompt for awareness of HunterNet, Ai Group, NSW Trade and Investment, AusIndustry, Austrade, Business Chambers, industry clusters and hub
 - Opportunity to provide relevant contact details or information about upcoming events such as the Summit, HVRF Breakfast, etc

13. What is the best thing we could do collectively AS A REGION to support Hunter manufacturers over the next 5 to 10 years?

14. Is there anything else you would like to add about the challenges or successes the firm has had in recent years, or comments about the future competitiveness of local manufacturers?

Thank you for your time today. Your insights will be collated with insights from other firms participating in the interview program and inform the development of targeted initiatives to support increased competitiveness of the Hunter's manufacturers.

This is an ongoing research project and may include follow-up interviews at a later date (face-to-face, phone or via email). Would it be ok to get back in touch with you?

Can you suggest any other firms that I could interview as part of this project?