

Management Skills in the Manufacturing Sector – Qualifications development and learner supports

Final Report

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## Introduction

This project was commissioned by the Higher Education and Skills Group (HESG) of the Victorian Department of Education and Early Childhood Development. This report sets out the findings of research into the current state of management development in the manufacturing sector in Victoria: it also provides recommendations to address issues identified through research and consultation.

Rationale

Members of the Manufacturing Skills and Training Taskforce, a Taskforce established under the Minister’s Industry Skills Consultative Committee, have identified managerial skill deficits for first line managers in the Victorian manufacturing sector. Additionally there is concern about the suitability of available qualifications and the approach to training delivery. The Taskforce has noted that this first line managerial cohort require additional developmental supports, such as mentoring, coaching, and peer support networks, to improve the likelihood of managerial success and to promote and extend learning.

Currently the Department of State Development, Business and Innovation’s (DSDBI) Business Development Managers work closely with HESG’s Regional Market Facilitation Managers. In total they visit approximately 12,000 small-to-medium sized Victorian businesses each year, and record the key issues identified in their consultations centrally. While the Business Development Managers interact with businesses across a wide range of business areas, however skills-related issues are the most common matters raised across all industry sectors, and in the manufacturing sector ‘management skills’ recur as a particular concern. Comments from manufacturing companies consistently reference the lack of suitable qualifications, and difficulty of finding suitable training pitched at the right level for people who are moving from shopfloor responsibilities to management responsibilities.

This project

This project set out to investigate:

* The views of industry and employers on the suitability of current offerings and any identified shortfalls
* The views on management training of employees who have recently transitioned from technical roles into management positions

The structure and indicative content of management qualifications suitable to support staff progression from technical/shop floor roles into management roles

Current management training options for this cohort, both Australian and any relevant overseas examples, and current developments in management qualifications

The project brief required a written summary report covering:

Methodology

Qualification structure recommended

Learner supports recommended

Details of consultation and feedback.

Each of these is outlined below with further detail provided in the attached appendices.

## Methodology

The project was conducted over 15 weeks between November 2013 and February 2014. The methodology included:

Discussion Paper

The purpose of the discussion paper (provided in Appendix I) was to collate key research findings in relation to management training in the manufacturing context, and present relevant questions. The discussion paper was widely disseminated through industry groups within Victoria. It included a set of questions that industry representatives were asked to respond to, either by individual face to face or telephone interview, or by participation in a focus group focused on those issues. A slightly modified version of the questions and the discussion paper was provided as an online survey tool. The target for the discussion paper was employers, and experienced managers within the sector.

Focus Groups

Some focus groups comprised a meeting of industry stakeholders from different companies; others were small groups of employees from a single company. Again the questions in the discussion paper were used as the basis for discussion.

Interviews with employers

These were either face to face in the workplace- or by telephone. Interviewees were asked to provide examples of good practice as well as respond to standard semi-structured questions. Interviews with new managers

These were sometimes in groups, sometimes with individuals, and focussed on identifying (1) the needs of new managers in taking up the role and (2) what skill development they felt they most wanted and needed (3) what modes of learning (face to face, in house versus groups of cross industry people, online, mentoring, coaching etc) were perceived as most useful.

RTO perspectives

After consultations with the industry, a workshop of RTO representatives was held to present them with some of the information collected from industry, and to test their reactions to different potential models of delivery.

Industry Skills Council perspectives

The organisations with the responsibility for developing and endorsing national qualifications in the Vocational Education and Training sector are Industry Skills Councils. The two most relevant national Industry Skills Councils, Manufacturing Skills Australia (developer and custodian of the Manufacturing and Sustainability Training Packages) and Innovation and Business Skills Australia (developer and custodian of the Business Services Training Package, which includes management qualifications) were also consulted through a three way teleconference between the CEO of each organisation and the consultants.

VET Development Centre

The VET Development Centre was established in 2005 (as the TAFE Development Centre) to reinvigorate the Victorian TAFE system through provision of best practice professional development opportunities. It was later expanded to include provision of services to the entire VET sector. A public company limited by guarantee, the VET Development Centre has the Victorian Minister Responsible for the Teacher Profession / Minister for Higher Education and Skills as the sole member.

The VET Development Centre CEO was interviewed after the RTO workshop in relation to the capacity of training organisations and VET professionals in general to deliver training in the structure and manner identified in the research as the preferred approach and also in relation to how that capacity may be developed.

Appendix II has a list of all those consulted for this project, grouped by target group and then by method of contact. A total of 96 people were consulted for the project. The following meetings were also attended for input into the project:

* Victorian Manufacturing Council, members meeting
* Manufacturing Skills and Training Taskforce, members meeting
* Bendigo Manufacturing Group, members meeting.

Consultations by target group

|  |  |
| --- | --- |
| **Target group** | **N=** |
| Industry stakeholder | 53 |
| RTO | 23 |
| New managers | 20 |
| Total | 96 |

Consultations by method of contact

|  |  |
| --- | --- |
| **Method of contact\*** | **N=** |
| Face to face interviews | 32 |
| Phone interviews | 11 |
| Discussion paper responses | 10 |
| Online survey responses | 18 |
| New managers workshop/consultation | 19 |
| RTO workshop | 22 |
| Total | 112 |

\* Note – some people participated in more than one method of contact

## Key Findings

The research undertaken as part of this project, focussed on identifying key content areas and delivery models for a skill development program that would increase the skills of current and potential new managers in manufacturing. The key findings included:

Current Practice

* Industry specific management development is an identified need and priority for the sector
* Managers are promoted for technical proficiency, not usually for their ability to lead others
* According to employers there are relatively rare examples of good training practice, ; according to RTOs there is a lack of quality, industry-relevant training resources, and funding limits their ability to offer customised solutions
* Whilst employers are often unhappy with the quality of training provided, they do not feel that they have sufficient information to help them to select a good training provider
* Some employers had positive experiences with an RTO or individual trainer who worked hard to understand the needs of the company and integrate aspects of the company’s operations into the training program
* There are different interpretations of leadership and different structural models of management in operation across the diverse manufacturing sector and these influence ideas about what skills are required by first line managers.

Learning content and delivery

* Skill development activities should link to business objectives
* There is no need for an entirely new and different management qualification, but there is a need for a flexible and engaging model of skill development. There are rare examples of this model in existence but there is a need for wider availability of this model
* Learning can be assisted through professional networks outside the company and mentoring and coaching within it
* New managers themselves are more likely to want accredited training that will lead to a qualification than their employers, and have a desire to see links between workplace skill development programs and higher qualification levels and career development. These accredited programs could be individual subjects or units, groups of these (skill sets) , but these should be able to be collected over time into a recognised qualification
* There are a variety of views about the length of programs, with some employers wanting just in time short skill development sessions, while others want a longer term sustained model of skill development for the individual and the organisation. New managers are more likely to want ongoing skill development and a commitment to a program over a reasonable length of time from when they begin the role, or even before they enter the role
* There is a diversity of views about whether ‘manufacturing specific’ management skills are required, or whether there is more to be gained by developing management skills in a group with individuals from broader industry groups
* There are however, specific manufacturing skills that need to be developed by managers as well as ‘generic’ management skills
* There is very little support for online learning for management skills (perhaps because the emphasis was on behavioural interpersonal skills), although a recognition that networks may be online.

Funding

* Both the individual and the employer should contribute to the costs of training, but there are various suggestions about how government could contribute to costs. These include removing restrictions on funding for individuals who have a qualification in one area so that the individual can receive assistance in fees for a management program even if they hold a technical qualification at a higher level.

In the future

* RTOs need to learn how to be suppliers to manufacturing companies and provide better services
* RTOs need to employ experienced qualified staff who have excelled in managing within a manufacturing context to teach new manager
* Industry needs to provide support to the learners in any management program. These supports would include a mentor within the organisation and support for local networks of managers.

## Management development – what should it cover?

There is no single answer to this question that could meet the needs of manufacturers in Victoria. However, by analysing recent literature in the area of leadership and management development and combining the outcomes of that research with the qualitative data from the survey, interviews and focus groups conducted through this project it is possible to arrive at a collated list of possible content areas.

These include:

* People skills, interpersonal skills, communication, conflict resolution, having difficult conversations, managing up
	+ - * + This includes communicating effectively with employees, but also with senior managers, external clients and suppliers. It also includes setting and communicating direction and providing constructive feedback
* Change management
	+ - * + This includes coping with ambiguity, and applying innovative thinking to respond to and embrace change
* Coaching and performance management and development
	+ - * + This includes actively seeking to improve the performance of the team by coaching and developing individual skills, achieving productivity gains by using skills most effectively
* Project management
	+ - * + This includes managing a project, including organising human and other resources, working to achieve a measurable outcome within set budget and time parameters
* Self management, time management and scheduling
	+ - * + This includes managing own time and priorities, goal setting, delegating and organising, learning to learn
* Leadership
	+ - * + This includes generating trust and confidence that the leader can lead the team towards identified goals
* Innovation
	+ - * + This includes being able to generate ideas, questioning how to do things better, solve problems and ‘think outside the box’
* Lean Manufacturing
	+ - * + This includes an understanding of concepts and tools such as 5S, Six Sigma as key requirements for working in a modern manufacturing context. Note: some people see this as a separate training program, whereas others see the inclusion of these concepts as a key part of contextualising a management program for the manufacturing industry
* Writing skills
	+ - * + This includes completing necessary documentation such as incident reports, schedules, and rosters as well as other documentation
* Managing diversity
	+ - * + This includes working with cross cultural teams, different ages, genders and other individual differences, demonstrating respect for different cultures
* Risk management
	+ - * + This includes risk in the broader sense but with a specific emphasis on workplace safety
* Staff recruitment and selection
	+ - * + This includes defining the key aspects of a job, recruiting people to work in the team, interview skills and selecting the preferred candidate.

Prioritising the long list, the key areas that were consistently mentioned by interviewees were

1. Leadership
2. Change and innovation
3. Effective communication with team members
4. Coaching and performance management

In essence, what the manufacturing wants in its new managers/team leaders is:

The ability to lead a team of people, through a period of significant change, using the ability to communicate effectively with those people the requirements of their job, encourage innovation and coach and performance manage the team to ensure that key performance indicators are met.

## Current management training options for new managers

Using a search engine to find ‘management training’ will produce literally thousands of results. Even trying to identify what training is available to new managers in manufacturing in Victoria produces a wide range of responses. The qualification most likely to be undertaken by new managers in manufacturing is the Business Services Certificate IV in Frontline Management, the most widely used and widely available qualification for this target group. There are hundreds of Registered Training Organisations with the qualification on their scope of registration and it is widely advertised to manufacturing companies, amongst others. Although many companies consulted as part of this project had been involved in one or more Certificate IV in Frontline Management programs many others had used different training programs, including a wide range of non accredited programs. These include a range of training programs conducted by private companies, professional and industry associations, such as Australian Industry Group and the Australian Institute of Management. Each of these organisations for example offer both the Certificate IV in Frontline Management and a range of short courses (one day or longer) on specific topics.

Some companies have developed their own management pathway programs which involve a combination of internal mentoring and some off site programs. Others mentioned the Certificate IV in Competitive Systems Manufacturing as being offered to new managers in their organisations. As an indicator of the broad range that is available, Appendix IV shows some international examples.

Innovation and Business Skills Australia has developed several new qualifications, replacing the existing Frontline Management qualifications. These will be endorsed in 2014. These new qualifications, the Certificate IV in Leadership and Management and the Diploma of Leadership and Management, could be seen to meet the needs of new managers, supervisors and team leaders within the manufacturing industry although they are targeted at all industries. The content of these qualifications is quite similar to pre existing frontline management qualifications but with a renewed focus on self reflection and inter personal skills. The Diploma of Leadership and Management contains a new core unit *BSBLDR501 Develop and use emotional intelligence* specifically included to heighten this focus.

Manufacturing Skills Australia (MSA), the national industry skills council for the manufacturing industry, noted in its 2013 E scan that the two qualifications in Competitive Systems and Practice were increasingly popular in the manufacturing industry but that the delivery strategy was crucial.

MSA is aware that some delivery is not targeting the ‘whole of organisation’ approach that makes outcomes most significant. This is partly due to limited provider expertise and partly due to the level of commitment from the enterprise senior management. The most marked improvements are achieved when Competitive Systems and Practices is implemented with everyone in the organisation and is driven by a commitment from senior managers. Small and medium enterprises struggle to select RTOs with whom they can collaborate to improve outcomes. There are two qualifications the Certificate IV and the Diploma of Competitive Systems and Practice that are commonly used in manufacturing. The Certificate IV is aimed at operators and team leaders while the Diploma is targeted at middle to senior managers and to technical experts within the organisation.

Discussions with the CEOs of the two industry skills councils indicated their commitment to finding an appropriate model for delivery that meets the needs of the manufacturing industry. They suggested either the development of a specific set of units within a qualification (a skill set) if the industry need was demonstrated or alternatively the development of resources that would encourage the preferred delivery model to be more widely and confidently implemented by RTOs.

### Information about current training options

Several people interviewed commented about finding it difficult to obtain information about quality training, but there are many tools and options available to both industry and potential students in Victoria. These include, but are not limited to:

**Rate Your Training**

This is a new ratings tool for industry and employers. It is a simple-to-use system where employers can rate the performance of a training provider in a particular study area against selected criteria, and review and compare the ratings of other employers.

<http://www.rateyourtraining.com.au/>

**Victorian Skills Gateway**

This is a ‘One-stop-shop’ of Victorian vocational education and training to help find the best option for students. Searches can be performed on occupations, courses, training providers, video and written case studies. This website is also viewable via a purpose-built smartphone interface.

<http://www.education.vic.gov.au/victorianskillsgateway/Pages/home.aspx>

**Business Toolkit and Case Studies**

This toolkit for employers provides information on how to get government-subsidised training under the Victorian Training Guarantee; getting the best training for your business, with a helpful checklist; information on Recognition of Prior Learning; and a range of interesting employer and training provider case studies

<http://www.education.vic.gov.au/training/employers/workforce/Pages/marketfacilitation.aspx>

**E-Marketplace**

This website will facilitates connections between employers and training providers. Employers can anonymously post their training requirements and training providers are able to provide structured responses online. Employers are then able to review the response with no obligation, create a shortlist and follow up directly with their preferred providers. **This is still in development but due for release this year.**

## Current trends in management development-what the literature tells us

As part of this project the consultants researched current developments in management approaches. This research focussed very much on what skills managers will require in the future and what ways of developing those skills are most effective. It is much easier to find research on required or desired skills than on how the skills are best acquired and used effectively. When the group under study is ‘managers’ and ‘leaders’ and there is such a wide range of industries, occupations and job titles it is not surprising that the literature is very broad. Most of this research was originally undertaken in 2013 as part of a scoping report for Innovation and Business Skills Australia to help them determine what changes they needed to consider in the management qualifications in the Business Services Training Package. This research has been enhanced by some more recent Australian and manufacturing specific research. The research has been grouped into seven key skill areas. Each of these is a summary term that includes several sub categories.

* self-management
* people management
* diversity
* globalisation and digital technologies
* leadership
* productivity and performance management
* innovation.

The final section focuses on management and leadership education, in particular research about what works best in terms of methods of developing the required skills.

Self-management

Stamoulis (2010)[[1]](#endnote-1) identified personal effectiveness as the highest scoring critical leadership attribute amongst Australian retail industry stakeholders. Although this research focuses specifically on the retail sector, the skills or traits of self-management identified here are widely accepted as characteristics of good managers across all industries.

By breaking down personal effectiveness, Stamoulis identified the following attributes as a cluster of skills needed by current and future retail managers:

* self-management – time, goal setting, delegating, organising
* empathy – sincerity
* sense of humour/fun – energetic personality
* approachable, flexible, resilient
* develop self – lifelong learner
* perception/ insight
* positive attitude
* develop relationships – rapport/ camaraderie/ networking
* self-regulation – composure/calmness/organisation.[[2]](#endnote-2)

Although Stamoulis differentiated between personal effectiveness and self-management, the latter being a subset of the former, Goleman (2004) views self-management as pertaining to the larger set of skills or traits that he calls ‘emotional intelligence.’

Goleman breaks down the components of emotional intelligence at work as follows:

|  |  |  |
| --- | --- | --- |
|  | **Definition** | **Hallmarks** |
| Self-Awareness | The ability to recognise and understand your moods, emotions, and drives, as well as their effect on others | Self-confidenceRealistic self-assessmentSelf-deprecating sense of humour |
| Self-Regulation | The ability to control or redirect disruptive impulses and moodsThe propensity to suspend judgement – to think before acting | Trustworthiness and integrityComfort with ambiguityOpenness to change |
| Motivation | A passion to work for reasons that go beyond money or statusA propensity to pursue goals with energy and persistence | Strong drive to achieveOptimism, even in the face of failureOrganisational commitment |
| Empathy | The ability to understand the emotional makeup of other peopleSkill in treating people according to their emotional reactions | Expertise in building and retaining talentCross-cultural sensitivityService to clients and customers |
| Social Skill | Proficiency in managing relationships and building networksAn ability to find common ground and build rapport | Effectiveness in leading changePersuasivenessExpertise in building and leading teams |

**Source: Goleman, Daniel, 2004. ‘What Makes a Leader?’ in *Harvard Business Review*. <http://hbr.org/2004/01/what-makes-a-leader/ar/1>**

Goleman’s research found that when comparing technical skills, cognitive skills (e.g. big picture thinking and long-term vision) against emotional intelligence as factors contributing to performance excellence, emotional intelligence was twice as important as the other factors for all jobs across/up/down the organisations.[[3]](#endnote-3)

People management

Findings from the ‘Karpin Report Revisited’ suggest that many companies use mechanisms to drive employee motivation and “*discretionary effort*” to achieve high performance. Whilst some organisations have succeeded with this effort, the report indicates that many find it difficult to produce a sustained approach to high performance. The findings of this report conclude:

[*T]here is a crucial difference between intellectually understanding effective practices and being able to systematically implement them. There appears to be a limited ‘ability to deliver’ amongst managers and leaders... people issues are the biggest challenge for managers and executives*.[[4]](#endnote-4)

In 2014, the Australian Institute of Management (AIM) released the results of a survey of over 2,000 middle managers. This survey indicated that over 50% of middle managers have average or below average people management skills, according to their colleagues. Yet survey respondents say that this is the most important skill required by middle managers.[[5]](#endnote-5)

AIM, as part of their ‘Managing the Future – Survey Series’, surveyed 2,928 individuals from different age groups, job positions, organisational structures and locations.[[6]](#endnote-6)

Overall views of management from the ‘Survey Series’ indicated the following:

* 1 in 6 employees were dissatisfied with their relationship with their manager
* 16% of general staff/team members and general managers through to senior managers were dissatisfied with their relationship to management
* 17.5% of middle managers experienced dissatisfaction with management
* 41% of employees intending to leave their job in the next 12 months believed their manager could not communicate effectively
* 54% of employees intending to leave their job in the next 12 months believed their manager did not support their development goals
* 76% of employees intending to remain in their job believed their manager treated everyone equally
* 1 in every 6 mid-level managers believed their manager had poor problem-solving skills.[[7]](#endnote-7)

The importance of workplace relationships, especially with managers, is also emphasised in the ‘Cultural Imprints at Work’ paper. Good quality workplace relationships can be defined by having “*a sense of secure identity and self-worth – identity as perceived by others establishes the person as an individual and helps maintain or enhance self-esteem*.”[[8]](#endnote-8) It is critical for Australians to feel a sense of ‘equal humanness’ with all colleagues, across all position groups. Managers who heighten their importance by emphasising their qualifications will reduce their credibility. Modesty, the report finds, is key.[[9]](#endnote-9) Feelings of inclusion were also found to boost self-worth and identity security. Employees that are not entrusted with information and ‘kept in the dark’ are more likely to become detached and uncertain, and experience reduced self-worth. For Australian managers, their role becomes one where “*managing exclusion is just as important as managing inclusion*.”[[10]](#endnote-10)

Diversity

“*Managers*”, Nicholson and Nairn state in ‘Manager of the 21st Century’, “*will be expected to manage a multi-generational workforce and acquire generation specific leadership and management skills, including managing a generation of older workers who will not retire in the traditional manner*.”[[11]](#endnote-11)

Managers will need to look at developing education, training and mentoring programs to bridge the knowledge and skills gap between younger and older generations. Being a manager and leader in the 21st century will come to signify:

“*need[ing] to understand, lead, integrate and motivate teams of increasingly diverse employees. Fostering inter-generational and inter-cultural teamwork is essential, as is finding ways to engender commitment and loyalty among people of different ages, from different cultures and with different values. Leaders will also have to adapt their organisations in order to encourage more women and other ‘minorities’ into leadership positions*.”[[12]](#endnote-12)

In 2008, the British Management Standards Centre – a government recognised standards setting body for management and leadership education – made amendments to a significant number of units on offer to reflect, amongst other matters, cultural and environmental developments in Britain and internationally. The following issues were included as part of the management and leadership qualification amendments:

* ageism
* cultural awareness
* diversity and inclusion
* globalisation
* managing diverse teams
* managing remote teams
* matrix management
* managing without power
* managing your boss.[[13]](#endnote-13)

Globalisation and digital technologies

 An examination of leadership and management qualities for managers in 2030 suggests, “*leaders will have to be multilingual, flexible, internationally mobile and adaptable. But, most crucial of all, they must be highly collaborative and have strong conceptual and strategic thinking skills.*”[[14]](#endnote-14)

 “*The strategic thinking and cognitive skills leaders will need to navigate this new world order are unprecedented. Good implementation and execution are no longer enough... they will need the ability to lead diverse teams over which they may have no direct authority and to find new ways of engendering personal loyalty in an environment where the old loyalties between employer and employee are declining due to the distance between them*.”[[15]](#endnote-15)

Effective communication between employers, senior management and other stakeholders will demand more planning, organisation and creativity. Using technology to communicate with individuals globally will require an understanding of differing cultural practices and etiquette, and time management. Controlling digital technology will also prove potentially problematic with the rise of social media blurring the distinction between public, private and corporate information and branding.

In a report responding to the study, ‘Developing an Asia Capable Workforce: A National Strategy’, the Asialink Taskforce identified the biggest impediment to realising the Asian opportunity as “*the absence or underdevelopment of critical individual organisational capabilities*.”[[16]](#endnote-16) “‘*The results [of the study*]”, the report says, “*make it clear that the higher the proportion of senior leaders who have cultural training, speak an Asian language or have lived and worked in Asia for more than 3 months, the more likely business performance will exceed expectations*.”[[17]](#endnote-17)

Leadership

According to the 2009 Australian Bureau of Statistics – Education and Training Experience (conducted nationally between March to June 2009):

* 18.7% of workers in the labour force participated in non-formal Management and Commerce courses – second only to Health courses
* A total of 348,200 managers participated in work-related training, the third largest employment group (behind professionals, and community and personal service workers)
* Managers were the second largest occupational group to participate in formal learning. [[18]](#endnote-18)

Management and leadership training has a strong place in Australian workforce education and training, yet, research indicates that leadership is a skill that requires further development in the workplace.

The ‘Karpin Report Revisited’ addressed this very problem by stating that:

“[*M]anagement education generally does a poor job on leadership development. Within MBA programs, relatively little effort and courseware on leadership is offered... Leadership development is recognised as a valuable and fertile area for future development*.”[[19]](#endnote-19)

The Australian Institute of Management’s 2014 survey of over 2,000 managers found that leadership is ranked by survey participants as one of the top three skills that middle managers need to have yet only 24% of middle managers say that their leadership performance is effectively measured.[[20]](#endnote-20)

The Hay Group, in its 2011 report, ‘Building the New Leader,’ identified and analysed new leadership competencies managers will need to develop moving towards 2030. Their research was carried out across 48 countries across Asia, Europe, Africa, North and South America, the Middle East and Australia and covered public, private and non-profit organisations. From this research, Hay Group were able to isolate the following leadership capabilities which they divided into cognitive, emotional and behavioural, as shown below.

|  |
| --- |
| **Cognitive** |
| Leaders need new forms of contextual awareness, based on strong conceptual and strategic thinking capabilities |
| They need to be able to conceptualise change in an unprecedented way, again based on conceptual and strategic thinking |
| Leaders need to exhibit new forms of intellectual openness and curiosity |
| **Emotional** |
| Overall, leaders will need to be much more sensitive to different cultures, generations and genders |
| They will need to demonstrate higher levels of integrity and sincerity and adopt a more ethical approach to doing business |
| They must also tolerate far higher levels of ambiguity |
| **Behavioural** |
| Leaders must create a culture of trust and openness |
| As post-heroic leaders they must rethink old concepts such as loyalty and retention and personally create loyalty |
| Collaboration – cross-generational, cross-functional and cross-company – will be their watchword |
| They must lead increasingly diverse teams |

**Source: Hay Group, 2011. ‘Building the New Leader – Leadership Challenges of the Future Revealed,’ 10.**

Similarly, a survey of leaders in high performing workplaces in Australia revealed that they:

* have the ability to support all employees, regardless of seniority, race, gender, to achieve their very best
* provide continuous feedback, that is genuine and frank, when required
* provide mentoring
* carry out face-to-face conversations with staff/teams
* are available for one-on-one time
* demonstrate true interest in development opportunities of employees
* increasingly involve staff in decision-making
* foster collaboration
* encourage creative problem-solving
* give all employees the opportunity to lead change
* can develop and communicate a vision and persuade workers that this direction into the future is auspicious
* role model expected behaviours
* increase workers’ beliefs in shared goals and values.[[21]](#endnote-21)

The study ‘Leaders in Australia – The Australian Cultural Imprint for Leadership,’ identified that there is a difference between a *leader* and a *boss*.[[22]](#endnote-22) The study concluded that:

“*Leaders care for their followers. Within that context the leader’s role is to build bridges between now and the future – bridges that allow followers to move from their present identity within comfortable and familiar relationships, to a new identity in a different situation that initially threatens insecurity and a need to establish new relationships. Building a bridge rather than selling the future*.”[[23]](#endnote-23)

In this respect, leadership is about supporting, inspiring and encouraging employees, seeing their individual potential and providing a ‘bridge’ to help them reach their potential.

A 2012 report by the Australian Industry Group, ‘Developing High Performing Organisations’, identified leadership as the most important of seven listed characteristics common to high performing organisations. The rest are: Participatory decision-making; Team based work systems; Developing and utilising the skills of the workforce; Quality improvement; Learning from others – networking and benchmarking; Knowledge sharing.[[24]](#endnote-24)

Productivity and performance management

A report produced in 2012 by Skills Australia, ‘Better use of skills, better outcomes,’ followed up on the issue of skills utilisation. An examination of best practice to encourage skills utilisation in organisations found that amongst other factors:

* senior management and leadership “*is fundamental to creating an environment conducive for effective skills use: one in which employees are encouraged to have input and contribute to the success of the organisation. Leaders and managers who allow risk-taking and provide opportunities; who promote creativity and innovation; and who encourage upwards feedback and employee involvement in business processes were consistently found to help create the right settings for skills utilisation*.”[[25]](#endnote-25)

Leaders and managers need to have the skills to adequately assess productivity and performance of their employees in order to up-skill and develop Australia’s workforce.

The ‘Australian Cultural Imprints’ study highlights the need for recognition of good work to be “*done in a way that is sincere and low-key... praise and recognition that is over the top and given undeservedly, is considered to be inappropriate and embarrassing*.”[[26]](#endnote-26)

A 2006 survey conducted by the Australian Institute of Management also analysed the relationship between workplace performance, absenteeism and employee engagement.[[27]](#endnote-27) The survey data indicated that almost a third of employees at the general staff level felt that they were underperforming as a direct result of their manager’s inability to extract the best possible performance from employees.[[28]](#endnote-28) This reflects other studies which report that Australian managers rate lower than their international counterparts in being able to provide constructive performance feedback.[[29]](#endnote-29)

Innovation

The ‘Karpin Report Revisited’ has a particular focus on innovation reporting that:

* more should be done for small to medium sized business owners in terms of agility and innovation in an increasingly cost competitive marketplace
* managers and high level executives need to understand technological basics in order to develop effective business strategies – many are technologically illiterate
* Australian organisations need to better use “*technology to advantage*’ – this is evidenced by the lack of large “*world class innovation-based organisations*” in Australia.[[30]](#endnote-30)

The Hay Group found that despite managers’ lack of explicit knowledge in innovative technologies, they still need to be open and promote visionary ideas. “*They must encourage innovation and collaboration and act as orchestrators of expertise from within and outside the organisation in order to harness the potential of converging technologies*.”[[31]](#endnote-31)

A survey of high performing workplaces (HPWs) in Australia found that innovation succeeds in organisations that:

“*make an effort to listen to their customers and question their existing services, processes and methods... there is more investment in innovation, more resources are used, and mechanisms put in place to capture and encourage ideas from employees*.”[[32]](#endnote-32)

Boedkler et al. comment that “*HPWs not only have procedures and processes in place to manage their innovation and development activities; they also have cultures and leadership styles that support innovation ambitions, creativity and problem solving*.”[[33]](#endnote-33)

As well as the wide range of research that focuses on the required skills for leaders and managers – some research has been undertaken into the effectiveness of various types of management and leadership training and education.

Management and leadership education

Whilst the business landscape and the skills and attributes needed by leaders are changing, the methods used to develop leaders have not changed to the same degree. Leaders are not being developed in a way that matches the complex environment they face. Many of the issues of management education and leadership skills that were flagged in the original Karpin report of t he 1990s, Enterprising Nation still remain.[[34]](#endnote-34) To reform management education requires leadership and management courses to develop a collective holistic organisation capability and business strategy, which focuses on systemic innovation within the workplace culture.[[35]](#endnote-35) It means short one-off programs will not achieve the changes required. Even after very basic training sessions, adults typically retain just 10 percent of what they hear in classroom lectures, versus nearly two-thirds when they learn by doing.[[36]](#endnote-36) Some of the key trends in leadership development required are:

* The move away from short one-off training programs to collaborating on customised leadership interventions that are more closely linked to organisational strategy and are based on a partnership approach between the business, the employee and the leadership education provider.
* Responsibility for one’s own learning. Leaders will be required to expand their capacity to think and reflect in broader and new ways to address current organisational challenges. This requires a transfer of developmental ownership to the individual and a willingness to take ownership.
* Leadership and learning become linked. Development takes place within teams and using “real life” work problems.
* A greater emphasis on team, organisational, network and system capacity development. This requires taking the learning back to the teams and into the workplaces. Innovative methods such as action learning can provide the much needed emphasis on building capacity at the team, organisation and system level.
* Higher-level development opportunities for leadership educators to be able to meet the complexities associated with developing leaders.

Set out below are two tables which summarise the research. One relates to the skills required, the other relates to the success factors for leadership and management education.

Skills matrix

|  |
| --- |
| *Summary of skills, qualities and attributes of good management and leadership from the research.* |
| The manager of the 21st century’, IBSA |
| * Manage diversity
* Respond to changing times within a changing mindset
* ‘Generation’ awareness
 |
| Hay Group and Z-Punkt |
| * Collaborative, flexible, adaptable and have strong conceptual and strategic thinking skills
* Digital literacy and ‘wisdom’
* Motivating diverse teams and encouraging diversity
* Fostering inter-generational and inter-cultural teamwork
* Contextual awareness
* Intellectual openness
* Cultural, generational and gender sensitivity
* Integrity and ethics
 |
| Critical Leadership Attributes: A Review of Leadership Attributes and Skills for the Retail Industry 2010 and Beyond |
| * Demonstration and interactive skills
* Effective communicators, credible, relationship 'builders, inspirational, engage others, encourage innovation and lead by example
* Personal effectiveness
* Drive
* Self-management
* Empathy
* Personality
* Approachability
* Rapport
* Self-regulation
 |
| Middle managers – Evaluating Australia’s Biggest Management Resource, AIM Monash University |
| * Communication
* People Management
* Leadership skills
 |
| What Makes a Leader?’, Daniel Goleman |
| * Emotional intelligence:
* Self awareness
* Self regulation
* Motivation
* Empathy
* Social skill
 |
| Cultural Imprints at Work, IBSA |
| * Managing inclusion and exclusion
 |
| Asialink |
| * Asia capabilities (cultural literacy)
 |
| Getting managers to run teams like CEO |
| * High-impact communication
 |

Delivery success factors

|  |
| --- |
| *Summary of the attributes of good management and leadership education from the research.* |
| Developing High Performing Organisations, Ai Group |
| * + - * + learning from others – networking and benchmarking
				+ knowledge sharing
 |
| Leadership, Culture and Management Practices, Boedkler et al. |
| * + - * + provide mentoring
				+ foster collaboration
				+ encourage creative problem-solving
 |
| Future trends in leadership development, Petrie, N. |
| * + - * + more focus on vertical development
				+ transfer of greater developmental ownership to the individual
				+ greater focus on collective rather than individual leadership
				+ much greater focus on innovation in leadership development methods
 |
| Why leadership-development programs fail, McKinsey |
| * + - * + focus on a small number of competencies
				+ learn by doing
				+ leadership development through business projects/real work
				+ monitor development against impact to business
 |
| Developing the global leader of tomorrow, Ashbridge Business School |
| * + - * + learning through practical experience, on-the-job or project based
				+ structured reflection, through coaching
				+ e-learning, and lecture style necessary for straightforward knowledge transfer and basic awareness
 |

## Views of industry and employers on the suitability of current offerings and any identified shortfalls

Many employers told us they were dissatisfied with current training being offered by RTOs, and in particular what they saw as ‘quick fix off the shelf models’. Frontline Management qualifications have a tarnished name, not so much because of their content but because of the limited way in which they were delivered. We heard comments like:

I sent one of our guys to a TAFE program but all the examples in the training were from the retail industry. It wasn’t supposed to be retail training, but general management training. I think he got something out of going and meeting with other new managers but it seemed that the trainer was just using materials that had been developed for one industry area and didn’t want to change them.

Another comment related to the need for training organisations to work hard to meet the needs of the manufacturing company.

Training organisations have to understand that they are a supplier to the company. Lots of people who work for them are trainers and they are thinking about the student, but they need to think about the company as their customer and meet our needs. Some of them have business managers who get this, but not enough of them.

Employers did not usually separate criticisms of the content of training from the capacity of the trainer or the model for delivery. There was a range of opinions about whether short sharp focussed skill development sessions on an as needs basis were better than a more sustained development program focused on the individual manager and their learning needs.

As a small business I can’t send everyone off to training, I really need a coach who can come here and work one on one with my team leaders, or something short that they can do in their own time. I get phone calls from training organisations who tell me they have funding and the training will be free but it doesn’t suit us as its too big a time commitment and has to be at their place at their time. I’d like a just in time solution to training. Short courses are good for us.

Many of those involved in our research stressed the need for on the job learning, with or without formal accreditation.

I think a manager needs to learn to manage on the job. Although we try to identify prospective leaders and get some training for them, we think they need to get some experience as a manager and then go back. For instance, conflict management is something you can learn about but until you have to sort out conflict between individuals in a team you are managing, you won’t really appreciate the importance of good communication skills, especially listening, making a decision and telling people clearly what your decision is.

Other comments focussed on the mix of theory and practice in training programs.

Current offerings, in my opinion, seem to focus more on the theoretical with learners often submitting a report or paper on a particular subject. There is not enough emphasis on practical application of the theory at hand. A case in point I had encountered was an MBA graduate who knew the theory of project management, yet did not know how to actively manage a project.

Others were more positive.

We had a few poor experiences but eventually we learned more about what to ask for and how to ask for it. We found a local provider who sent a good trainer who worked with us to identify workplace projects that the guys could do. They worked on improvements in something in the company, then presented their idea or their solution to the senior management group. It was good for them and good for us.

Several people interviewed said that they found it difficult to sift through information available about the relative quality of different training offerings. We did find examples of companies being pleased with the training on offer, but in each case this was either a one off short program on a specific topic, or a program that had been deeply contextualised for the company or a group of companies. It may or may not have involved individuals undertaking assessment and receiving a qualification. Many of those interviewed for this project indicated that the company as the purchaser of training was usually most concerned with getting high quality training with an excellent trainer, and that the training was very closely linked to company needs, rather than whether it was accredited or not. Many interviewees indicated that the individual new manager was often very interested in receiving a qualification or some formal recognition for what they had done.

Issues specific to small and medium enterprises

Small and medium enterprises have less access to information about training, are less likely to be able to engage an RTO to undertake their training because of low numbers of potential participants and are best able to be involved in some sort of consortium approach. Releasing staff from the workplace is an issue for all employers but is particularly challenging for small businesses. Industry associations and business networks seem to offer these groups the best support to enable their new managers to fully participate in available learning and development opportunities. Small businesses are less likely to be able to create a viable group to attract an RTO for in house training or for customised delivery to their specific company. They are more likely to promote from within and as one small business owner commented

Everyone has to be a leader, they need to multi-task, innovate and show entrepreneurial spirit

The training system has more difficulty engaging with SMEs and their focus on qualifications can be a barrier to access for people in small and medium enterprises.

In summary, when asked about the ‘current offerings’, interviewees usually focussed on the inflexibility of training delivery in time and place, and the generic nature of the content, contrasting that approach with that provided to suit their needs for contextualisation of the content for the manufacturing sector as well as customisation for the individual company.

When the content areas identified in the research are mapped against existing Australian qualifications most if not all of the skill areas are covered in one or two existing qualifications. (See Appendix III for mapping document for details). The most relevant qualifications are:

* Certificate IV in Leadership and Management and Diploma of Leadership and Management, both from the Innovation and Business Skills Australia’s BSB Business Services Training Package (due to be endorsed mid2014).
* Certificate IV in Competitive Systems and Practice and Diploma in Competitive Systems and Practice, from the Manufacturing Skills Australia MSS Sustainability Training Package.

The BSB qualifications are cross industry with no specific manufacturing focus while the MSA qualifications are not specifically focussed on first line managers, as the Certificate IV is for all employees and the Diploma qualification is aimed at production managers, operations managers and others at a more senior level. By taking key components of each qualification it would be possible to build a course or program which would cover most identified skills and would provide the participant with a pathway into either MSS or BSB full qualifications if so desired. If this program was to be endorsed by one or other of the two industry skills councils it could be known as a Skill Set, given a specific name (e.g. Management Skills for Manufacturing) and coded so that it could be identified on the national register of courses. MSA and IBSA are both willing to work together to identify and endorse an appropriate skill set.

Units such as:

* MSAPMSUP390A Use structured problem solving tools
* MSA403001A Implement competitive systems and practices
* BSBLDR402 Communicate effectively as a workplace leader
* BSBMGT402 Implement operational plan
* BSBWHS401 Implement and monitor workplace health and safety policies, processes and programs

would appear to cover the key content areas suggested by the research but this combination would need to be further validated by industry to ensure that they meet industry needs.

Alternatively similar content could be arrived at by putting together a **‘*Course in Management Skills for Manufacturing’***and accrediting it through the Victorian Registration and Qualifications Authority. It would then be known as an accredited course.

### Advantages and disadvantages of the options

#### Training Package Skill Set

**Advantages**: As the units that would be in the Skill Set already exist, no development work would need to be done. Given that the CEOs of the relevant ISCs have indicated support for the approach, it would be a relatively straightforward and quick process to have the Skill Set identified and registered. The skill set could be placed in both the BSB training package and the MSA training package. The availability of the skill set would be made known to RTOS through the mechanisms that they normally use to hear about new qualifications and training products in their teaching areas. RTOs that already had the qualifications in which the units are found on their scope of registration would be able to quickly deliver the skill set, without needing additional approval from the regulator. Once in one or more training packages the ISC would be responsible for updating the product so there would be no additional updating costs.

**Disadvantages:** Training Packages are developed by national industry skills councils. As such their products respond to national industry needs rather than those of a specific state. Victoria would not own the skill set and if changes to the included units were made in the future, that may affect the usability of the product.

#### A course in.....

**Advantages**: The course could be built using existing training package units but could also include modules developed specifically for the Victorian manufacturing new manager. Either Victoria could ‘own’ the course or one or more providers could be encouraged to develop and accredit it.

**Disadvantages**: Because it would be a new training product, existing training providers would need to apply to their regulator for authority to deliver the course. This may discourage some interested providers, and would delay implementation time. Depending on the units used, and whether completely new units/modules were developed it may be more difficult to develop pathways between the course and full qualifications.

It should be noted that in neither case is it possible to prescribe the delivery method by the method of accreditation. The outcomes of this research show that industry has identified components of a preferred model of delivery for training of new managers. More important than whether the proposed training product already exists in the above mentioned qualifications, or requires a new skill set or a ‘course in’ is the ability to be able to encourage the take up of this preferred model moving forward.

## Preferred model of delivery and associated learner supports

Industry criticisms of training are not related to the availability of training courses in management and supervisory skills, but rather with the quality and inflexibility of delivery, the lack of delivery focussed on the manufacturing industry and the needs of particular enterprises. It is also clear from the research that the mode of delivery, integration with business operations and expertise of the trainer/facilitator are more important to industry than the type or level of the qualification (or even if it is an accredited program). There is widespread respect for successful training programs, rather than for a qualification title that can be delivered by any RTO. The best examples of skill development currently or recently undertaken by Victorian manufacturing companies contain several of the following components which, when combined, create the preferred model of delivery for a management skill development program for this industry. These components include:

* One or more companies identifying a need and being very specific about the skills they require.
* The company approaching an RTO and selecting the RTO as a supplier of services to the company, and the RTO recognising this as their role, rather than solely as a provider of an existing product to a new customer.
* Commitment by the company’s senior management to the skill development program, including the provision of mentors, coaches and or other support people who would assist the participant with their learning. This commitment would also involve the senior management understanding that developing the skills of their managers would have a productivity bonus for the enterprise. The program could start before the individual took up a role supervising others, or shortly after they were appointed to the role. In practice it appears that individuals with differing levels of experience are likely to be together in the same program.
* The RTO developing a customised program for the company/consortium that included:
	+ - * + An expert trainer with deep knowledge of the manufacturing industry and strong coaching, facilitation and communication skills. The trainer needs to be entertaining and able to capture the attention of participants and inspire them to learn.
				+ Deep linkages into the company, including consulting with the company about appropriate workplace projects that the individual manager could work on both to develop skills and to add value to the enterprise.
				+ Starting from the content areas the company wanted to develop, then developing the learning materials and then linking that back to available national qualifications so that the individual could gain certification at the end of the program.
				+ Delivery of training sessions within the company and or at different company premises to enable learners to see operations within different companies and to network with their peers.
				+ A model of delivery based on learning being undertaken over a longer period. For example, a half day per fortnight or per month, for 12 to 18 months with the requirement to work on workplace projects or other work related activities between sessions..
				+ A mentor assigned to each participant and the training of those mentors by the facilitator of the training program.
				+ An opportunity for new managers to join and contribute to an ongoing network of peers. Membership of the group may include individuals who have undergone the program but may also include others.
* The RTO offering participants further opportunity for skill development at a higher or more specialised level and links to higher level qualifications where appropriate.

The diagram below sets out this model. It should be noted that the model is focussed entirely on delivery, it does not in itself mandate any particular content. We know from the research, both in the literature and in this project that there is a core set of skills required by all leaders and managers. This model cannot be accredited – what is accredited within the Australian VET system is a set of units of competency, modules or ‘subjects’ that together make up a full qualification. However what is being sought by the Victorian manufacturing sector is a specific delivery model which is extremely client focussed. Some RTOs claim that they deliver something very close to this model, while others consulted in this project identified the model as ideal but ‘too expensive to deliver’ or ‘not supported by current funding models’.

## Proposed Delivery Model and Learner Supports



Notes about the model:

* Although the diagram shows a ‘Manufacturing Company’ as the key driver, it will be more common that a consortium of companies group together to increase purchasing power, or work through an existing business network. As well as financial benefits from the increased purchasing power, the learning for individual participants will be increased by sharing learning experiences across companies.
* Feedback from the company or consortium to the training organisation after training is necessary to ensure continuous improvement.
* The ‘regional network’ may also include alumni from the program. The Geelong Manufacturing Council’s Leadership for Manufacturing Excellence Program generated a Leadership Alumni Program, while Toyota has its own internal alumni network.

Set out below is a hypothetical example of how this model might work in practice

## An example: How the model might work in practice:

A group consisting of representatives of each of six companies in a geographic area come together to prioritise the training needs of their new managers.

CONSORTIUM OF COMPANIES

WHAT: The group identify

* Leadership skills
* Ability to lead change
* Performance management, including giving feedback and managing poor performance
* Problem solving to make sure outcomes are achieved

WHO: They determine how many people can/should be trained. They identify 30 people across the six companies. They work out that not all 30 can be away from their work at the same time so each company prioritises and as a group they determine that 18 people can take part in the first program. They decide that it would be good if the group could meet face to face with an entertaining, knowledgeable and experienced trainer. They also believe that as well as meeting with new managers from other companies the individuals will benefit from having a mentor in their own company. The mentor will become a connection between the individual and their own company and also between the company and the training organisation.

WHEN: They identify Thursday afternoons as the best time with Friday mornings the second option. Half a day per fortnight over a period of six months is agreed as achievable in terms of time off the job but also often enough to keep the participants engaged.

WHERE: The representatives agree that each company will take it in turn to host the sessions but that as well as benefiting from seeing other companies the training program should include some site visits to different organisations.

HOW: The representatives agree that three registered training organisations (RTOs) be approached to quote on the delivery of the training program. They write a brief and negotiate with the three RTOs, and select one.

THE SELECTED TRAINING ORGANISATION;

Works with the consortium to flesh out the content of the training program, the sequencing of topics, and meets with the mentors and or other company representatives to identify key issues to be used as case studies/examples in the program. When the broad content of the program is agreed, the training organisation maps the content back to the skill set to ensure that all aspects are covered.

THE INDIVIDUAL NEW MANAGER/LEARNER

 Participates in the program, is encouraged and supported by their company mentor who works with the participant to identify learning opportunities within the company, the outcome of which will benefit the company as well as help the individual with his or her learning. On completion of the learning and assessment requirements of the program, the individual will be awarded the skill set and if they wish to continue to a full qualification will be able to continue to do so, either with the original training organisation or any other registered training organisation that offers the qualification as they will have received significant credit for the skill set.

Note: This hypothetical example assumes that the consortium is a group of companies, rather than an existing network. The process would be easier if supported by an existing manufacturers’ group.

## Recommendations

It is recommended that:

1. The delivery model identified and described in the text and diagram above be utilised as the basis for trialling a management development program for new managers in manufacturing in Victoria.
2. The Higher Education and Skills Group of DEECD work with the relevant industry skills councils (Manufacturing Skills Australia and Innovation and Business Skills Australia) to develop a skill set within a training package. The skill set to be called the Management in Manufacturing Skill Set be based on the topic areas and units of competency listed above on page 15.The skill set would provide credit towards both a Certificate IV in Leadership and Management and the Certificate IV in Competitive Systems and Practices.
3. A training program customised to the identified skill needs of a pilot group of new managers within one or more consortia of manufacturing companies be developed, and trialled using the delivery model outlined in the text and diagram above.
4. A facilitated regional new managers’ network be trialled utilising a peer-learning model. This should build on existing successful networks, such as the Bendigo Manufacturers’ Group, the South East Melbourne Manufacturers’ Alliance and the alumni network of the Geelong Leadership for Manufacturing Excellence Program, conducted through the Geelong Manufacturing Council.
5. A training program for mentors be trialled in order to ensure that identified mentors in organisations have the skills to support the participant and their involvement in the skill development program.
6. A program to develop the capacity of RTO trainers to work within the identified delivery model be developed and delivered. This may include involving RTOs in the development of high quality resources based on real-life case studies and realistic scenarios to encourage them to engage effectively in delivery to the manufacturing industry in Victoria .These professional development activities would be aimed at building the capacity of RTOs to use the proposed delivery model and resources.
7. Advice about the availability of information in relation to training quality, funding options and availability be circulated through manufacturing networks in Victoria as a way of ensuring that new information mechanisms developed by DEECD are more effectively utilised.

## Roadmap to Stage 2

As this project was Stage 1 of a two Stage project, set out below are some steps towards a pilot of the proposed approach.

Step1: Discuss the options at a Manufacturing Skills Taskforce Meeting and determine the preferred approach. Note: The meeting of April 1 decided to progress the Skill Set option.

Step 2: Approach the ISCs to develop the skill set,

Step 3: While the ISCs are going through the necessary processes to formally endorse the skill set, construct a project brief for the trial including roles and responsibilities of each party and an evaluation phase.

Step 4: Identify one or more RTOs and one or more companies/consortia prepared to trial the model.

Step 5: Conduct the trial program

Step 6: Evaluate and modify the program

Step 7: Disseminate the results and promote the revised program

## Conclusion

Employers and current managers in the Victorian manufacturing sector are clear about their requirements for a responsible vocational education and training system where providers are able to work with them to help them increase productivity and the uptake of innovative ideas and processes. They are committed to developing the skills of their workforce and in particular the skills of new managers and are keen to work with each other, with government and with the training providers to increase the chances of success.

Notes:

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## Appendix I: Discussion paper

Discussion Paper:

Management Skills in the Manufacturing Sector – Qualifications development and learner supports

Prepared for: The Department of Education and Early Childhood Development

November 2013

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1. **Introduction**

This paper seeks the views of business managers involved in manufacturing about ways to strengthen management skills in the industry. In particular, the paper seeks to identify what sort of training, and what sort of learner supports, would be of most benefit to staff moving from the shop-floor/technical roles into management roles.

**Purpose**

The paper has been commissioned by the Department of Education and Early Childhood Development as part of a project to design a qualification or a suite of qualifications with appropriate learner supports to assist the ‘shop floor/technical to new manager’ cohort. The work is being undertaken by Precision Consultancy, in collaboration with the Australian Industry Group.

At the end of the paper, a number of questions are posed to explore what sort of training options would best meet the needs of new managers in manufacturing in Victoria. The consultants are interested in hearing from you in relation to these issues. You can email Mitch Cleary at mitch@precisionconsultancy.com.au with your responses to the questions at the end of the paper, or alternatively with a request for a time for a telephone interview/conversation around the issues raised in the paper.

Email: mitch@precisionconsultancy.com.au

Fax: 03 9606 0118

Alternatively you can complete the questions online at: <https://www.surveymonkey.com/s/management_skills_questionnaire>

Responses are requested to be sent by **31 January 2014**.

**Background**

Australian manufacturing over the past two decades has experienced rapid change and re-structure. Increasingly production is off-shored to cheaper labour. The automation of many processes in manufacturing has seen a decline in the need for low-skilled workers and an increase in demand for technical skills.

Global forces have resulted in a strong Australian dollar, meaning that the challenge of making Australian manufactured goods competitive is even greater.

Companies that are agile and can respond quickly to changes in consumer demand and even drive consumer demand through the creation of new and useful products are more likely to be successful.

Research about high and low performing workplaces, in terms of their productivity, indicates that high productivity will be underpinned by innovation[[37]](#endnote-37). This includes technological innovation such as new machinery and new products. It also includes new ways of organising work, such as different management techniques and adoption of new business models.

**What does good management look like?**

According to an Australian report, *Leadership, Culture and Management Practices of High Performing Workplaces*[[38]](#endnote-38)  *in Australia,* high performing workplaces have:

1. Higher levels of responsiveness to changes in stakeholder and customer networks
2. Higher levels of employee participation in decision making processes
3. Higher levels of behavioural and skills flexibility in employees
4. Good use and quality of information, communications and technology
5. Excellence in attracting and retaining high quality people

The research shows that engaged employees are productive employees.

Managers need to create a work environment that can boost productivity by improving employees’:

* job satisfaction
* motivation
* skills utilisation
* access to training and
* capacity to control how they achieve their work outcomes.

Finally, and most importantly, managers need to foster a culture of innovation within their business.

1. **What do managers in manufacturing need to know and be able to do?**

This section explores the skills and attributes needed for managers to maximise productivity. It is organised in terms of broad areas which could ultimately be included in a new qualification for managers in manufacturing.

***Self management***

Self management includes skills such as resilience, perception and insight into own and hence others’ behaviour, self regulation, emotional intelligence, reflection and self criticism, integrity and ethics.

Research conducted by Daniel Goleman[[39]](#endnote-39) found that when comparing technical and cognitive skills (e.g. big picture thinking and long-term vision) against emotional intelligence as factors contributing to performance excellence, emotional intelligence was twice as important as the other factors for all jobs across and up and down the organisation.

***Leadership***

Leadership is about how people use their self management skills to influence other people; by modelling behaviours, motivating and leading a group, leading a project team, and using highly developed communication skills via a number of mediums. It could also encompass strategic and long term vision, and the capacity to understand global markets and thinking and relate this back to the business. Leadership could be about understanding and recognising technical versus adaptive problems in the workplace and practical strategies to deal with both.

***People management***

Research has found that many Australian manufacturing enterprises are strong in operations management but not so strong in people management.[[40]](#endnote-40) While they are able to link employee performance with defined accountability and rewards, they struggle with more advanced human resources capabilities. People management includes attracting, developing and retaining talent, and practising adaptive leadership in order to mobilise team to tackle tough challenges and thrive in a globally competitive environment.

Managers need skills in:

* effective communication including dialogue and good questioning skills
* encouraging collaboration between staff and teams
* performance management and managing poor performance
* talent management
* working with culturally diverse work groups
* providing feedback and having difficult conversations
* celebrating success
* prioritising and dealing with what is critical to the business.

***Planning and Performance***

Managers need to be able to set targets and measure and assess performance and productivity. They need skills in financial management; developing budgets, monitoring and reporting on income and expenditure. This would equip managers with methods and metrics to measure and report on outputs. It also means being able to use a range of performance metrics to evaluate the effectiveness of various process improvements.

***Innovation***

Innovation is about generating ideas, taking calculated risks, questioning how to do things better, facilitating change, turning ideas into products, processes and services, and encouraging others to innovate.

It encompasses strategies to ensure new technologies are assessed and used where appropriate, and bench-marking of competitors.

It also includes knowing how to embed innovation in the workplace culture, processes and overall business strategy. Innovation will require leaders that are capable of adapting to, and understanding change processes. This is critical to innovation but also in any environment required to constantly adapt to change.

***Diversity***

Today’s and tomorrow’s managers will need cultural competence, that is, the capacity to work with people from different backgrounds; be able to lead intergenerational teams; and be inclusive.

In addition, the manufacturing workforce, compared with other industries, has relatively low levels of literacy and numeracy skills, which can present its own set of complex challenges for managers.

**Managing in a manufacturing business**

The above skills and knowledge are general management/leadership skills which could equally apply to almost any work setting from retail to manufacturing. However, there are knowledge and skills that are possibly unique to managers working in manufacturing.

***Manufacturing***

Manufacturing encompasses a whole range of processes, from research and development, production, market testing, logistics, to global supply chain management. New managers might benefit from having a broad overview of the manufacturing process, including LEAN manufacturing techniques and an understanding of the broader context of global markets.

***Compliance***

Managers need to ensure that systems are in place to make the workplace safe. Managers will need to have an understanding of relevant industrial awards to ensure agreed staff employment conditions are met. In addition, there may be regulations around the manufacturing of a product, such as, for example, food regulations for a food manufacturer, which managers need to be aware of in order to ensure the business is acting within legal boundaries. Another example is quality control systems and processes that need to be adhered to in order to meet industry and customer requirements.

1. **Current management training options**

There are a wide range of products available for people to develop their management skills. Some are accredited, meaning they are recognised by government, meet certain quality standards, and award a qualification within the Australian Qualifications Framework.

***VET qualifications***

VET qualifications are nationally recognised qualifications designed specifically for industry. The most popular vocational education and training (VET) sector qualification in the management area is the Certificate IV in Frontline Management this qualification has been designed to support staff moving from the shop-floor/technical roles into management. VET qualifications are usually tied to a specific job outcome, and hence focus on developing competency to do the job. Some examples are below:

| **Type** | **Length** | **Content** | **Delivery** |
| --- | --- | --- | --- |
| Certificate IV in Frontline Management | 6-12 months | 10 units, such as ‘Promote team effectiveness’ and ‘implement an operational plan’. | Online; a day a week; part-time in evenings; can incorporate a project from work |
| Diploma in Management | 6-12 months | 8 units, such as ‘Manage people performance’ and ‘Manage an operational plan’ | Online; a day a week; part-time in evenings; can incorporate a project from work |
| Advanced Diploma in Management | 6-12 months | 8 units, such as ‘Provide leadership across the organisation’ and ‘Manage organisational change’ | Online; a day a week; part-time in evenings; can incorporate a project from work |

VET qualifications in management also exist at higher levels including Graduate Certificate and Graduate Diploma level. The Certificate IV in Frontline Management is the most commonly delivered qualification in Australia for new managers. Although the context of the program is set nationally the modes of delivery vary greatly.

The qualification must be delivered and assessed by a Registered Training Organisation (TAFE, private provider or enterprise RTO).

***Higher education qualifications***

Higher education qualifications are usually developed and accredited by individual universities.

| **Type** | **Length** | **Content** | **Delivery** |
| --- | --- | --- | --- |
| Associate Degree | 2 years full-time | Usually about 16 units covering management and business topics | Face to face and some online. |
| Bachelor Degree | 3 years full-time | Usually about 24 units, some core, some electives, usually enabling a specialisation in an area such as HR management or Operations Management | Face to face, may involve a work-based project and some online delivery. |
| Graduate Certificate | 6 months full-time | 4 units, may include: Supply chain management, Risk Management, Leadership, Organisational Management among others. | Face to face and some online delivery |
| Graduate Diploma | 1 year full-time | 8 units, may include the above PLUS topics like Business analysis and risk | Face to face and some online delivery |
| Masters | 1.5-2 years full-time | 8-16 units, often incorporating a work related project | All online to a mix of online and face to face, on campus, ‘intensives’ and experiential units |

***Non-accredited training***

Non-accredited training is training that does not lead to the issuing of a formal qualification. Some examples are listed below.

| **Type** | **Length** | **Content** | **Delivery** |
| --- | --- | --- | --- |
| Short courses | 1-3 days | Usually just one topic eg. ‘Organising a team’ | Often off-site, face to face |
| Vendor programs | Can be 1 or 2 days to short bursts over a year | Usually to develop skills and knowledge in a particular methodology | Often a mix of face-to-face, in the workplace and online |
| Mass open online courses | Usually 4-12 hours a week for 6-12 weeks | Single topic ‘eg Planning in a Global Market’ | Online, viewing podcasts, readings, assignments, group forums |

1. **How can managers in manufacturing best acquire the skills they need?**

Set out below are some commonly used methods of training delivery/skills development. Many high quality programs use a combination of these methods.

***Face to face/classroom learning***

Face to face learning involves participating in a learning program that is usually delivered at the training provider’s facilities. Classroom based approaches can enable participants to learn from each other as well as the trainer, and to learn away from their workplace setting. Many short courses are delivered in this way, and they typically involve listening to information, talking with classmates about it and doing short simulations or exercises relating to the content.

***Online learning***

Online learning usually involves reading material, watching podcasts, participating in online class forums and submitting assessments electronically. It is often more flexible than other modes of delivery, in that learners can undertake learning at their own pace, to fit within their work and personal commitments.

***Experiential learning***

Experiential learning is about doing an activity, and then reflecting on and analysing what happened, as a way to learn. This kind of method, effectively ‘learning by doing’ can be highly effective. For example, it would be hard to learn to ride a bike just by taking notes about it from a whiteboard. It can be run with or without a facilitator and is often quite open-ended in terms of what exactly gets learnt.

For example, a business school hires actors who perform scenes from a work environment and learners watch the scenes, and can participate by either stopping the scene to discuss and reflect on what is happening, propose actors re-do the scene but take a different approach, or even joining the actors to offer a new solution to a problem.

***Action learning / Problem based learning***

Action learning involves a group of people who come together to solve a ‘problem’. The problem may be broad – how to establish a global market – or narrow – how to effectively implement a new performance management system. Action learning groups can be established within a single enterprise or across several. They are usually facilitated by someone who manages time and task boundaries. This role includes managing the dynamics and the process but not participating. Integrating strategy and leader development projects connects participants to the real challenges of the business and is supplemented by support from management (perhaps through mentoring) and coaching support.

***Workplace training***

Often training providers deliver customised training that is delivered within a workplace setting. For example, a metal manufacturer identifies that its operational managers need to develop their skills in measuring performance effectiveness. The company decides to adopt the 6 Sigma methodology, which is a set of tools and strategies to support process improvement. The company wants to implement this throughout the production floor and engages a trainer who trains floor managers on site. Floor managers must complete a project as part of their training which identifies and quantifies a process improvement. As the project is delivered on-site and as part of the real work, other staff in the company are exposed to the learning first-hand.

***Mentor programs***

Mentors are experienced people who can provide guidance and support to less experienced staff. Usually a mentor is someone who is distant or separate from the employee’s immediate colleagues. Also, usually, mentoring is a symbiotic relationship; both mentor and mentee benefit from the connection.

For example, a large multi-plant manufacturer sends one of its new managers to another plant for a couple days a month for 6 months to shadow the more experienced manager. The new manager benefits from observing how the mentor does his work, and the mentor can learn from the mentee about different processes and developments at the other plant.

***Coaching***

Coaching is usually skills based. The focus is on identifying a skill need and then appointing an individual coach with expertise in that skill, who works directly with the individual over a short or long period of time.

1. **The bigger picture**

This discussion paper has focused on how best to strengthen the skills of new managers moving from technical/shop floor roles into management/supervisory roles. The underlying assumption, based on our research, is that this is essential in order to boost the productivity of manufacturing businesses.

But new managers may face other barriers, too, such as inadequate skills from the senior leadership team, or gaps in the literacy, numeracy and digital technology skills of their teams. (New managers may even have these gaps themselves).

Some leadership skills such as innovation and diversity for example, need to be considered in context of the organisation and existing processes and systems in place. Participants who gain new skills need to be able to practice them back in the organisation. This may require a review of the organisational constraints in place that may act as a barrier to innovation or diversity. Teaching these skills in isolation of any organisational context may inhibit that skill being practiced in the workplace.

1. **Questions for discussion**
2. *What are some of the key challenges that first time managers in manufacturing experience on the job?*

1. *What knowledge, skills and attributes should managers in the manufacturing sector possess?*

1. *What are the critical points in an employee’s career when management training would be most useful?*

1. *What is your view about current management skills development offerings? What concerns do you have?*

1. *Is a full qualification required for managers, or are smaller skill sets in specific areas preferred?*

1. *Can you describe some education and training programs that have been effective in supporting new managers, either in your own organisation or others?*

1. *How do you believe that mentoring, coaching or networking could help staff transition to management roles?*

1. *How important is cost in making decisions about what training is best? How should cost be shared between the individual, employer and government?*

Name:

Position:

Company:

Contact Details:

Can you please provide some brief detail about your company, the industry sub sector(s) in which it operates and your geographic location?

Thank you for your time.

Please send responses by **31 January 2014** to:

Email: mitch@precisionconsultancy.com.au

Fax: 03 9606 0119

or

Complete the questions online at: <https://www.surveymonkey.com/s/management_skills_questionnaire>

If you would like to speak to one of the consultants working on the project, find out more about the project and/or provide your feedback in this way, please phone Mitch Cleary, Managing Director of Precision Consultancy on 03 9606 0118.

## Appendix II: Consultation List

**Grouping by target group**

| **Name** | **Organisation** | **Sub Sector** | **Industry stakeholder** | **RTO** | **New manager** |
| --- | --- | --- | --- | --- | --- |
| Gordon Hardcastle | Motherson Elastomers Pty Limited (MEPL) | Plastics, rubber and cablemaking | ✓ |  |  |
| Ross George | Australian Engineering Solutions (Austeng)  | Metal, engineering | ✓ |  |  |
| Geoff Kinniburgh | Hoffman Engineering | Metal, engineering | ✓ |  |  |
| Jim Griffin | Diver Consolidated Industries | Metal, engineering | ✓ |  |  |
| Dr Joe Husidic and Nik Payne | Wiseman Institute | Education | ✓ |  |  |
| Andrew Williamson | Vic Uni (collected from L&D at Alcoa) | Education | ✓ |  |  |
| Anthony Evans | Food Service and Manufacturing Solutions Pty. Ltd. | Food processing | ✓ |  |  |
| Tony Kairouz | Cedar Meats Australia Pty Ltd | Food processing | ✓ |  |  |
| Glenn Morrison | MSD Animal Health | Biological and Pharmaceutical Manufacturing | ✓ |  |  |
| John Candy | Bendigo Truss Plant | Prefabricated timber roof trusses and wall frames | ✓ |  |  |
| Paul Chapman | Australian Turntable Company Pty Ltd | Design and manufacture mechanical engineered product | ✓ |  |  |
| Rebecca Middleton | Process & Practice | Electrical, machinery | ✓ |  |  |
| Colin Baldock | SEM Fire & Rescue | Metal, engineering and boating | ✓ |  |  |
| Marlene Medley | Alcoa Rolled Products | Metal, engineering and boating | ✓ |  |  |
| Barrie Baker | Great South Coast Board | Food Processing | ✓ |  |  |
| Dean Giles | Netafim Australia | Plastics, rubber and cablemaking | ✓ |  |  |
| Pam Riley | TMCA | Automotive | ✓ |  |  |
| Mike | *not provided* | Consumer product manufacturing | ✓ |  |  |
| Richard Jefferies | Low Carbon Mobility International P/L | E-Mobility [Advanced Hybrid program] | ✓ |  |  |
| David Colasante | Fismidth-Abon | Metal, engineering and boating | ✓ |  |  |
| Alan Maguire | Ai Group |  | ✓ |  |  |
| Anthony Ainsworth | Vitasoy | Food processing | ✓ |  |  |
| Graham Church | Alpine MDF | Building | ✓ |  |  |
| Peter Skewes | Wilson Transformer Company | Power and distribution transformers | ✓ |  |  |
| John Ratray | Bradken | CMS, Engineered products, Mining, Mineral processing, Rail | ✓ |  |  |
| Tammy Currie | Nestle | Food processing | ✓ |  |  |
| Julie Sage | Kardex | Storage, retrieval and conveyor systems | ✓ |  |  |
| Patricia Neden | Innovation & Business Skills Australia | Industry Skills Council | ✓ |  |  |
| Rosalie Staggard | Innovation & Business Skills Australia | Industry Skills Council | ✓ |  |  |
| Bob Paton | Manufacturing Skills Australia | Industry Skills Council | ✓ |  |  |
| Victorian Manufacturing Council, members meeting |  |  | ✓ |  |  |
| Sandra George and Adrian Boden | South East Melbourne Manufacturing Alliance |  | ✓ |  |  |
| Members of the Manufacturing Skills and Training Taskforce |  |  | ✓ |  |  |
| Bendigo Manufacturing Group, members meeting  |  |  | ✓ |  |  |
| Ken McCulloch | McCulloch Hydraulic Engineers | Agricultural, engineering | ✓ |  |  |
| Klaus Frank | Industrial Conveying | Conveyor systems | ✓ |  |  |
| Dean Connell | BB Truss and Timber | Building | ✓ |  |  |
| Rodd Carrington | Jimmy Possum Furniture | Furnishing | ✓ |  |  |
| Jim Dannock | Ai Group |  | ✓ |  |  |
| Vicki Gaudion | Hazeldene's Chicken Farm | Food processing | ✓ |  |  |
| Brent Nally | Southern Shorthaul Railroad | Rail | ✓ |  |  |
| Rod Thomson | Bendigo Pottery |  | ✓ |  |  |
| Herbert Hermens | Keech Australia | Steel castings | ✓ |  |  |
| Aaron Cassidy | Universal Fencing | Fencing | ✓ |  |  |
| Murray Brown | Thales Australia | Aerospace, Defence, Transportation, Security | ✓ |  |  |
| John Manning | B Keogh and Sons | Conveying & Elevating Equipment & Systems | ✓ |  |  |
| Luke Barry | Parmalat | Food processing | ✓ |  |  |
| Barry Lyons | City of Greater Bendigo |  | ✓ |  |  |
| Stan Liacos | City of Greater Bendigo |  | ✓ |  |  |
| Brian Gould | City of Greater Bendigo |  | ✓ |  |  |
| Jill Walsh | ACTCO Pickering Metal Industries Pty Ltd | High quality sheet metal components | ✓ |  |  |
| John Hollitt | Wilson's Transformer Company | Power and distribution transformers | ✓ |  |  |
| Deborah Brown | Mentor to Women in Engineering | Engineering | ✓ |  |  |
| Wayne Walter | Kangan Institute of TAFE | Education |  | ✓ |  |
| Josie Daw | Centre for Workplace Leadership | Education |  | ✓ |  |
| Pam Turnbull | Northern Melbourne Insitute of TAFE | Education |  | ✓ |  |
| Ingrid Carpenter | IQ-AM Pty Ltd | Education |  | ✓ |  |
| Roy Mears | Australian Institute of Management | Education |  | ✓ |  |
| Shaun Davis | Australian Institute of Management | Education |  | ✓ |  |
| Chris Dixon | Complete Lean Solutions | Education |  | ✓ |  |
| Sheila Fitzgerald | Swinburne | Education |  | ✓ |  |
| Sarah Fortuna | Centre for Workplace Leadership  | Education |  | ✓ |  |
| Calvin Judd | College of Manufacturing Excellence | Education |  | ✓ |  |
| Julie Leahy | The Australian Industry Group | Education |  | ✓ |  |
| Sue Marshall | Victoria University  | Education |  | ✓ |  |
| Mark Pope | Chase Performance | Education |  | ✓ |  |
| Chris Riches | College of Manufacturing Excellence | Education |  | ✓ |  |
| Paul Saunders | Curriculum Maintenance Manager Service, General Manufacturing | Education |  | ✓ |  |
| Peter Schreiner | Federation University  | Education |  | ✓ |  |
| Jane Sims | Box Hill Institute of TAFE | Education |  | ✓ |  |
| Prashil Singh | Wodonga Institute of TAFE | Education |  | ✓ |  |
| Don Terry | Wodonga Institute of TAFE | Education |  | ✓ |  |
| Andrew Williamson | Victoria University  | Education |  | ✓ |  |
| Meagan Wilson | Franklyn Scholar | Education |  | ✓ |  |
| Ian Woods | College of Manufacturing Excellence | Education |  | ✓ |  |
| Denise Stevens | VET Development Centre | Education |  | ✓ |  |
| Elliot Dushwoth | SEM Fire & Rescue | Metal, engineering and boating |  |  | ✓ |
| Jamie | Symbion | Metal, engineering and boating |  |  | ✓ |
| *not provided* | Bombardia | Metal, engineering and boating |  |  | ✓ |
| *not provided* | Cummins | Metal, engineering and boating |  |  | ✓ |
| *not provided* | Cummins | Metal, engineering and boating |  |  | ✓ |
| *not provided* | Cummins | Metal, engineering and boating |  |  | ✓ |
| *not provided* | *not provided* | Warehousing |  |  | ✓ |
| Kelly McCarthy | Toyota - Boshoku | Auto Manufacturing |  |  | ✓ |
| Abihub Mishira | SCA Hygiene | Manufacturing |  |  | ✓ |
| Mirna Lyczyt | Toyota - Boshoku | Auto manufacturing |  |  | ✓ |
| Anthony Thoumissen | LaTrobe | Education |  |  | ✓ |
| Michelle Fedunary | Parmalat | Food processing |  |  | ✓ |
| Laura Meagher | Incolink | Construction |  |  | ✓ |
| Phillip Nagorika | Coles | Retail |  |  | ✓ |
| Oliver Berhard | Starrarra | Health |  |  | ✓ |
| Antonel Patti | IPAR | Health |  |  | ✓ |
| Beau Peters | IPAR | Health |  |  | ✓ |
| Callum Ridge | McCullochs Engineering | Agricultural, engineering |  |  | ✓ |
| James Robertson | McCullochs Engineering | Agricultural, engineering |  |  | ✓ |
| Brad Robertson | McCullochs Engineering | Agricultural, engineering |  |  | ✓ |

**Grouping by method of contact**

| **Name** | **Organisation** | **Sub Sector** | **F2F** | **Phone** | **DP response** | **Survey response** | **New Man.** | **RTO** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Brad Robertson | McCullochs Engineering | Agricultural, engineering | ✓ |  |  |  |  |  |
| Gordon Hardcastle | Motherson Elastomers Pty Limited (MEPL) | Plastics, rubber and cablemaking | ✓ |  |  |  |  |  |
| Ross George | Australian Engineering Solutions (Austeng)  | Metal, engineering | ✓ |  |  |  |  |  |
| Geoff Kinniburgh | Hoffman Engineering | Metal, engineering | ✓ |  |  |  |  |  |
| Tony Kairouz | Cedar Meats Australia Pty Ltd | Food processing | ✓ |  |  | ✓ |  |  |
| Glenn Morrison | MSD Animal Health | Biological and Pharmaceutical Manufacturing | ✓ |  |  | ✓ |  |  |
| John Candy | Bendigo Truss Plant | Prefabricated timber roof trusses and wall frames | ✓ |  |  | ✓ |  |  |
| Paul Chapman | Australian Turntable Company Pty Ltd | Design and manufacture mechanical engineered product | ✓ |  |  | ✓ |  |  |
| Callum Ridge | McCullochs Engineering | Agricultural, engineering | ✓ |  |  |  | ✓ |  |
| James Robertson | McCullochs Engineering | Agricultural, engineering | ✓ |  |  |  | ✓ |  |
| Victorian Manufacturing Council, members meeting |  |  | ✓ |  |  |  |  |  |
| Sandra George and Adrian Boden | South East Melbourne Manufacturing Alliance |  | ✓ |  |  |  |  |  |
| Members of the Manufacturing Skills and Training Taskforce |  |  | ✓ |  |  |  |  |  |
| Bendigo Manufacturing Group, members meeting  |  |  | ✓ |  |  |  |  |  |
| Ken McCulloch | McCulloch Hydraulic Engineers | Agricultural, engineering | ✓ |  |  |  |  |  |
| Klaus Frank | Industrial Conveying | Conveyor systems | ✓ |  |  |  |  |  |
| Dean Connell | BB Truss and Timber | Building | ✓ |  |  |  |  |  |
| Rodd Carrington | Jimmy Possum Furniture | Furnishing | ✓ |  |  |  |  |  |
| Jim Dannock | Ai Group |  | ✓ |  |  |  |  |  |
| Vicki Gaudion | Hazeldene's Chicken Farm | Food processing | ✓ |  |  |  |  |  |
| Brent Nally | Southern Shorthaul Railroad | Rail | ✓ |  |  |  |  |  |
| Rod Thomson | Bendigo Pottery |  | ✓ |  |  |  |  |  |
| Herbert Hermens | Keech Australia | Steel castings | ✓ |  |  |  |  |  |
| Aaron Cassidy | Universal Fencing | Fencing | ✓ |  |  |  |  |  |
| Murray Brown | Thales Australia | Aerospace, Defence, Transportation, Security | ✓ |  |  |  |  |  |
| John Manning | B Keogh and Sons | Conveying & Elevating Equipment & Systems | ✓ |  |  |  |  |  |
| Luke Barry | Parmalat | Food processing | ✓ |  |  |  |  |  |
| Barry Lyons | City of Greater Bendigo |  | ✓ |  |  |  |  |  |
| Stan Liacos | City of Greater Bendigo |  | ✓ |  |  |  |  |  |
| Brian Gould | City of Greater Bendigo |  | ✓ |  |  |  |  |  |
| Jill Walsh | ACTCO Pickering Metal Industries Pty Ltd | High quality sheet metal components | ✓ |  |  |  |  |  |
| Denise Stevens | VET Development Centre | Education | ✓ |  |  |  |  |  |
| Anthony Ainsworth | Vitasoy | Food processing |  | ✓ |  |  |  |  |
| Graham Church | Alpine MDF | Building |  | ✓ |  |  |  |  |
| Peter Skewes | Wilson Transformer Company | Power and distribution transformers |  | ✓ |  |  |  |  |
| John Ratray | Bradken | CMS, Engineered products, Mining, Mineral processing, Rail |  | ✓ |  |  |  |  |
| Tammy Currie | Nestle | Food processing |  | ✓ |  |  |  |  |
| Julie Sage | Kardex | Storage, retrival and conveyor systems |  | ✓ |  |  |  |  |
| Patricia Neden | Innovation & Business Skills Australia | Industry Skills Council |  | ✓ |  |  |  |  |
| Rosalie Staggard | Innovation & Business Skills Australia | Industry Skills Council |  | ✓ |  |  |  |  |
| Bob Paton | Manufacturing Skills Australia | Industry Skills Council |  | ✓ |  |  |  |  |
| John Hollitt | Wilson's Transformer Company | Power and distribution transformers |  | ✓ |  |  |  |  |
| Deborah Brown | Mentor to Women in Engineering | Engineering |  | ✓ |  |  |  |  |
| Jim Griffin | Diver Consolidated Industries | Metal, engineering |  |  | ✓ |  |  |  |
| Dr Joe Husidic and Nik Payne | Wiseman Institute | Education |  |  | ✓ |  |  |  |
| Andrew Williamson | Vic Uni (collected from L&D at Alcoa) | Education |  |  | ✓ |  |  |  |
| Anthony Evans | Food Service and Manufacturing Solutions Pty. Ltd. | Food processing |  |  |  | ✓ |  |  |
| Rebecca Middleton | Process & Practice | Electrical, machinery |  |  |  | ✓ |  |  |
| Colin Baldock | SEM Fire & Rescue | Metal, engineering and boating |  |  |  | ✓ |  |  |
| Marlene Medley | Alcoa Rolled Products | Metal, engineering and boating |  |  |  | ✓ |  |  |
| Barrie Baker | Great South Coast Board | Food Processing |  |  |  | ✓ |  |  |
| Wayne Walter | Kangan Institute of TAFE | Education |  |  |  | ✓ |  |  |
| Dean Giles | Netafim Australia | Plastics, rubber and cablemaking |  |  |  | ✓ |  |  |
| Pam Riley | TMCA | Automotive |  |  |  | ✓ |  |  |
| Mike | *not provided* | Consumer product manufacturing |  |  |  | ✓ |  |  |
| Richard Jefferies | Low Carbon Mobility International P/L | E-Mobility [Advanced Hybrid program] |  |  |  | ✓ |  |  |
| David Colasante | Fismidth-Abon | Metal, engineering and boating |  |  |  | ✓ |  |  |
| Josie Daw | Centre for Workplace Leadership | Education |  |  |  | ✓ |  | ✓ |
| Peter Schreiner | Federation University  | Education |  |  |  | ✓ |  | ✓ |
| Elliot Dushwoth | SEM Fire & Rescue | Metal, engineering and boating |  |  |  | ✓ | ✓ |  |
| Jamie | Symbion | Metal, engineering and boating |  |  |  | ✓ | ✓ |  |
| *not provided* | Bombardia | Metal, engineering and boating |  |  |  | ✓ | ✓ |  |
| *not provided* | Cummins | Metal, engineering and boating |  |  |  | ✓ | ✓ |  |
| *not provided* | Cummins | Metal, engineering and boating |  |  |  | ✓ | ✓ |  |
| *not provided* | Cummins | Metal, engineering and boating |  |  |  | ✓ | ✓ |  |
| *not provided* | *not provided* | Warehousing |  |  |  | ✓ | ✓ |  |
| Kelly McCarthy | Toyota - Boshoku | Auto Manufacturing |  |  |  |  | ✓ |  |
| Abihub Mishira | SCA Hygiene | Manufacturing |  |  |  |  | ✓ |  |
| Mirna Lyczyt | Toyota - Boshoku | Auto manufacturing |  |  |  |  | ✓ |  |
| Anthony Thoumissen | LaTrobe | Education |  |  |  |  | ✓ |  |
| Michelle Fedunary | Parmalat | Food processing |  |  |  |  | ✓ |  |
| Laura Meagher | Incolink | Construction |  |  |  |  | ✓ |  |
| Phillip Nagorika | Coles | Retail |  |  |  |  | ✓ |  |
| Oliver Berhard | Starrarra | Health |  |  |  |  | ✓ |  |
| Antonel Patti | IPAR | Health |  |  |  |  | ✓ |  |
| Beau Peters | IPAR | Health |  |  |  |  | ✓ |  |
| Pam Turnbull | Northern Melbourne Insitute of TAFE | Education |  |  |  |  |  | ✓ |
| Ingrid Carpenter | IQ-AM Pty Ltd | Education |  |  |  |  |  | ✓ |
| Roy Mears | Australian Institute of Management | Education |  |  |  |  |  | ✓ |
| Shaun Davis | Australian Institute of Management | Education |  |  |  |  |  | ✓ |
| Chris Dixon | Complete Lean Solutions | Education |  |  |  |  |  | ✓ |
| Sheila Fitzgerald | Swinburne | Education |  |  |  |  |  | ✓ |
| Sarah Fortuna | Centre for Workplace Leadership  | Education |  |  |  |  |  | ✓ |
| Calvin Judd | College of Manufacturing Excellence | Education |  |  |  |  |  | ✓ |
| Julie Leahy | The Australian Industry Group | Education |  |  |  |  |  | ✓ |
| Sue Marshall | Victoria University  | Education |  |  |  |  |  | ✓ |
| Mark Pope | Chase Performance | Education |  |  |  |  |  | ✓ |
| Chris Riches | College of Manufacturing Excellence | Education |  |  |  |  |  | ✓ |
| Paul Saunders | Curriculum Maintenance Manager Service, General Manufacturing | Education |  |  |  |  |  | ✓ |
| Jane Sims | Box Hill Institute of TAFE | Education |  |  |  |  |  | ✓ |
| Prashil Singh | Wodonga Institute of TAFE | Education |  |  |  |  |  | ✓ |
| Don Terry | Wodonga Institute of TAFE | Education |  |  |  |  |  | ✓ |
| Andrew Williamson | Victoria University  | Education |  |  |  |  |  | ✓ |
| Meagan Wilson | Franklyn Scholar | Education |  |  |  |  |  | ✓ |
| Ian Woods | College of Manufacturing Excellence | Education |  |  |  |  |  | ✓ |
| Alan Maguire | Ai Group |  |  |  |  |  |  | ✓ |

## Appendix III: Existing Qualifications Matrix

**Existing qualifications matrix – mapping of required skills against existing qualifications**

Note: This is a summary list of the top ten areas most often mentioned in the literature, in interviews and in focus groups held over the course of this project.

**Content Areas**

| **Required skills** | **Certificate IV/Diploma Leadership and Management****Related units by code and title and add (C if core, E if elective)** | **Certificate IV/Diploma** **Competitive Systems and Processes****Related Units (C if core, E if elective)** | **Comments**  |
| --- | --- | --- | --- |
| Interpersonal skills / soft skills | BSBLDR401 Communicate effectively as a workplace leader (C)BSBLDR402 Lead effective workplace relationships (C)BSBLDR403 Lead team effectiveness (C) | MSS405011A Manage people relationships (E) |  |
| Communication | BSBLDR401 Communicate effectively as a workplace leader (C)BSBREL402 Build client relationships and business networks (E) | MSS405014A Develop a communications strategy to support operations (E)MSS403013A Lead team culture improvement (E) |  |
| conflict resolution | BSBLDR401 Communicate effectively as a workplace leader (C)BSBLDR403 Lead team effectiveness (C) |  |  |
| having difficult conversations | BSBLDR401 Communicate effectively as a workplace leader (C)BSBCRT401 Articulate, present and debate ideas (E) |  |  |
| managing up | BSBLDR402 Lead effective workplace relationships (C) |  |  |
| Change management  |  | MSS403010A Facilitate change in an organisation implementing competitive systems and practices (C)MSS403013A Lead team culture improvement (E)MSS405041A Implement improvement systems in an organisation (E) |  |
| Coaching and performance development | BSBLDR402 Lead effective workplace relationships (C)BSBLDR403 Lead team effectiveness (C) |  |  |
| Project management | BSBADM409 Coordinate business resources (E)BSBPMG522A Undertake project work (E) |  |  |
| Self management | BSBWOR404 Develop work priorities (E) |  |  |
| time management and scheduling (transition to supervisor) | BSBWOR404 Develop work priorities (E) |  | Minor coverage , not emphasised |
| Leadership | BSBLDR401 Communicate effectively as a workplace leader (C)BSBLDR402 Lead effective workplace relationships (C)BSBLDR403 Lead team effectiveness (C)BSBLDR404 Lead a diverse workforce (E)TAEDEL404A Mentor in the workplace (E)BSBMGT401 Show leadership in the workplace(C)BSBMGT404 Lead and facilitate off-site staff (E) | MSS403013A Lead team culture improvement (E)MSA403001A Implement competitive systems and practices |  |
| Innovation | BSBINN301 Promote innovation in a team environment (E) |  |  |
| Lean management |  | MSS405041A Implement improvement systems in an organisation (E)MSA403001A Implement competitive systems and practices | Covered within multiple units |
| Problem solving |  | MSAPMSUP390A Use structured problem solving tools (E) |  |
| Writing skills | BSBWRT401 Write complex documents (E) | BSBWHS401 Implement and monitor workplace health and safety policies, processes and programs  | Safety documentation is one of the key areas where writing skills are required by team leaders |
| Managing diversity | BSBLDR404 Lead a diverse workforce (E) |  |  |
| Sustainability | BSBSUS301 Implement and monitor environmentally sustainable work practices (E) | MSAENV472B Implement and monitor environmentally sustainable work practices (E)MSS403002A Ensure process improvements are sustained (E)MSS405070A Develop and manage sustainable energy practices (E)MSS014003A Optimise sustainability of a process or plant area (E)MSS014004A Develop team strategies for more sustainable use of resources (E)MSAENV672B Develop workplace policy and procedures for environmental sustainability (E) |  |
| Risk management | BSBRSK401 Identify risk and apply risk management processes (E)BSBWHS401 Implement and monitor workplace health and safety policies, processes and programs  |  | Safety is one of the major areas of practical risk management |
| Recruitment and selection |  |  | Not specifically covered in units |
| human resource management | BSBREL402 Build client relationships and business networks (E)BSBLED401 Develop teams and individuals (E) |  |  |

## Appendix IV: International qualifications and programs

**International Management in Manufacturing Courses**

| **Course name** | **Duration** | **Website** | **Provider/Location** | **Overview** |
| --- | --- | --- | --- | --- |
| Certificate in Manufacturing Management | 10 month course | http://www.manufacturinginstitute.co.uk/events/detail/certificate+in+manufacturing+management\_454 | **Location:** Manchester **Start Date:** Sep 1, 2014 **Duration:** 10 months The Manufacturing Institute Warren Bruce Court Warren Bruce Road Trafford Park Manchester M17 1LB Tel: +44 (0) 161 875 2525 Fax: +44 (0) 161 875 2503 | The Certificate in Manufacturing Management develops the key managerial skills and commercial acumen to introduce a structured and professional management approach.It teaches the critical manufacturing methods and technical management skills that are vital for influencing, team building, managing change and identifying opportunities for business improvement and growth.**This programme is open to anyone with several years’ manufacturing experience.****The Certificate is designed for managers who are required to manage people, processes and budgets in order to improve manufacturing process performance in leaner organisations.****Typical students include: production, manufacturing, works and operations managers; engineering managers and team/shift leaders.** |
| MPhil in Industrial Systems, Manufacturing and Management (ISMM) | 11 months of taught programme plus one month of assessment.  | http://www.ifm.eng.cam.ac.uk/education/ismm/ | Institute for Manufacturing17 Charles Babbage RoadCambridge, UKCB3 0FST:+44 (0) 1223 332729E:ismm-enquiries@eng.cam.ac.uk[University of Cambridge] | The course considers the whole value chain and builds an integrated view of manufacturing spanning marketing, design, production, product/service delivery and industrial sustainability. The strategic context at company, national and international level is considered.The programme is structured around taught modules, company visits and in-company projects solving live business or technical problems. An overseas study tour offers a broader international context and the individual research thesis allows greater depth of study in a specific area of manufacturing.The taught programme is split as follows:* Eight weeks of project work, during which students undertake four projects
* 15 weeks of taught modules
* A two-week overseas study tour either in mainland Europe or further afield.
* An 18-week dissertation project where students will be working with researchers for the Institute for Manufacturing applying new theories to industrial applications.
 |
| Manufacturing Leadership Training | 3 days | <http://www.manufacturingtraining.com/Manfucturing%20Leadershp.htm> | *phone (909 204 9984) or* *e-mail**jhberk@jhberkandassociates.com**[international]* | *Manufacturing Leadership* is a 3-day training program that presents the elements of an effective and proactive manufacturing management system, with a focus on developing a first-level manufacturing management team. Topics include lead person, supervisor, and executive manager roles in the manufacturing environment, and how these key positions influence quality, cost, and delivery performance. This is a practical course taught from the perspective of an experienced manufacturing manager, with a special emphasis on real-world solutions, the “nuts and bolts” of manufacturing leadership, and delivering quality products on schedule. The course develops and presents a results-oriented roadmap for implementing an effective manufacturing management system. |
| Training Within Industry | Five half-day sessions | http://www.wmep.org/next-generation-manufacturing/advanced-talent-management/training-services/training-within-industry | Wisconsin Manufacturing Extension Partnership2601 Crossroads Drive, Suite 145Madison, WI 53718877-800-2085 | Competency in two general areas—Knowledge and Skill—determine the effectiveness of the supervisor.Training Within Industry (TWI) focuses on building the supervisors’ skills to provide a base that allows them to raise the skill level of the employees. TWI offers four programs to build supervisor and employee skills:* Job Relations (Building skill in leadership)
* Job Instructions (Building skill in teaching)
* Job Methods (Building skill in methods improvement)
* Job Safety (Increasing safety on the job)
 |
| Manufacturing Management Certificate | Eight-course, eleven-day certificate program | http://www.ctme.caltech.edu/operations/manufacturing-management-certificate.html | Centre for Technology and Management EducationDivision of Engineering and Applied ScienceCalifornia Institute of Technology626.395-4042 or ctme@caltech.edu. | Provides a comprehensive overview of all components of manufacturing (production) management.Consists of 8 courses, the relevant management course is titled:* Manufacturing Management Overview Course (one-day)

Other subjects are:* Available Conversion Technologies (one day)
* Critical Manufacturing Processes and Organization Structure (one day)
* Manufacturing Quality Management Processes (two day)
* Equipment and Facilities Maintenance (one day)
* Manufacturing LEAN Process Design and Execution (three day)
* Manufacturing Regulatory Compliance and Stakeholder Considerations (one day)
* Manufacturing Management Team Project Reviews (one day)

- See more at: http://www.ctme.caltech.edu/operations/manufacturing-management-certificate.html#sthash.3Xr536Ez.dpuf |
| WSQ Apply Project Management SkillsWSQ Apply Management Level Planning Skills |  | http://www.ntuclearninghub.com/wsq-apply-project-management-skills | The Singapore Workforce Development Agency (WDA) developed the Workforce Skills Qualifications (WSQ) Certified Associate Operations Executive (AOE) qualification under the Generic Manufacturing Skills (GMS) WSQ framework. | The Singapore Workforce Development Agency (WDA) developed the Workforce Skills Qualifications (WSQ) Certified Associate Operations Executive (AOE) qualification under the Generic Manufacturing Skills (GMS) WSQ framework.This programme is designed to provide the essential skills, competencies and knowledge in the areas of project management, quality management, business process improvement and people management.* Purpose of Project Management
* Pros and cons of managing projects
* Project management processes
* Defining the scope of project
* How to conduct feasibility analysis of undertaking the project
* Project selection methods
* Managing project risks
* How to manage the resources required to undertake the project
* Project management tools
* Negotiation skills
* Types of stakeholders
 |
| Supervisory Skills for Business and Industry | 30 hours | http://manufacturingleadership.com/courses/supervisory-skills-for-business-and-industry/ | Conestoga College,299 Doon Valley Drive, Kitchener, ON N2G 4M4Phone: (519) 748-5220, x 2239Fax: (519) 748-3520E-mail: smilton@conestogac.on.caCanada | The Manufacturing Leadership Certificate Program (MLCP) has been developed through a training partnership of five Ontario Community Colleges and the Canadian Manufacturers & Exporters (CME).The course consists of the following modules:**Module #1 – Roles of the Supervisor within Management****Module #2 – The Design of your Organization****Module #3 – Continuous Tasks of the Supervisor****Module #4 – Recruitment and Retention****Module #5 – Problem Solving****Module #6 – Working as a Productive Unit****Module #7 – The Lines of Communication #1 – Verbal****Module #8 – The Lines of Communication #2 – Written****Module #9 – Critical Legislation for the Supervisor****Module #10 – Finding the Facts** |
| DCC Production Management Certificate | 18 to 24 months | https://www.dcc.edu.za/business/logistics-and-supply-chain-management/production\_management\_certificate/ | Damelin CorrespondenceSouth Africa | **Course Contents*** Supply Chain Management
* Supervision
* Introduction to Production and Operations Management
* Financial Control
* Production and Operations Management Skills
* Industrial Engineering
 |
| Manufacturing Management: Organizational Behavior | 8 days | http://www.admicanada.com/courses/course.asp?id=18 | McMaster University1280 Main Street West Hamilton, Ontario L8S 4L7 tel: (905) 525-9140 ext. 23097fax: (905) 572-7944 email: mech@mcmaster.ca  | The study of formal organizations as well as the behaviour of people within those organizations in work settings that are relevant to manufacturing management is addressed.The interrelation of behavioural phenomena among individual, group, and organizational levels is covered. In addition, concepts such as group dynamics, motivation, job and organizational design, job stress, conflict management, leadership, environment, and technology will be discussed and their relevance to organizational behaviour and administrative theory examined.Course objectives revolve around three categories of learning: knowledge, skills, and application, including:* basic knowledge of major concepts relating to organizational behaviour and theory relevant to manufacturing management
* understanding of these concepts and their interrelationships
* skill to critically evaluate these concepts in terms of capability in diagnosis and problem solving through application of learned material
* ability to work in teams
* facility to communicate ideas related to the subject matter orally and in writing.
 |
| Successful Strengths CoachingCoaching for Individual PerformanceCoaching Managers and TeamsAccelerated strengths coaching course | 2 day course or5 day course | https://www.gallupstrengthscenter.com/Purchase/Kits | Gallup Strengths CentreInternational eg* Omaha, NE
* Auckland, NZ
* London, UK
* Mumbai, India
* Toronto, Canada
* Washington, DC
 | **Successful Strengths Coaching**This two-day course is for coaches who are pursuing strengths-based development information. The course instructs students how to help others understand, apply, and integrate Clifton StrengthsFinder results into their roles.**Coaching for Individual Performance**During this two-day course, students learn ways to support coaching conversations with others. They learn how to help others understand and apply their talents, and also learn how to help them manage the things that impede or restrict their effectiveness.**Coaching Managers and Teams**This two-day course teaches how to help managers and teams understand, apply, and integrate their strengths into their respective roles. Students learn how to facilitate small team sessions (up to 15 people) to help team members use their talents for team engagement, better team performance, and improved business outcomes.**Accelerated Strengths Coaching**This course consolidates the instruction and resources from all coaching courses one four-and-a-half day session. Students will receive information on how to help clients respond to challenges, work with others, accomplish their goals, and understand their biases and vulnerabilities. |
| Management Trainee Program | 2 years | uk.graduates.kuehne-nagel.com | Kuehne + Nagel<http://www.kn-portal.com/> | The Kuehne + Nagel Management Trainee programme is designed to provide employees with experiences that will develop them to be their future managers and build the pipeline for leaders within Kuehne + Nagel, with a focus on building operational and commercial knowledge**Programme details*****Contract Logistics*** The Contract Logistics placement aims to build knowledge of overall operations and provide hands on experience. Following 4 months of training students prove capabilities by playing an active role as a Shift Manager, dealing with people management/resource planning, site responsibility, daily decision making and management reporting.***Freight Forwarding*** In the Freight Forwarding rotation students learn the skills necessary to establish and maintain direct customer relationships and understand global import and export operations, and also have exposure to both operational and people management skills.***Sales and HR Placements*** This rotation provides an opportunity to work within a Sales environment or gain experience within Human Resources developing both operational and management skills. ***Qualification*** Students have the opportunity to undertake a CILT or Institute of Export professional qualification relevant to their rotation.***Mentoring and Support*** Students are assigned a senior management mentor to provide guidance and support throughout training. |
| Management and Leadership Development Programme | Varies  | http://proskill.co.uk | ProSkills United Kingdom see below | Pro Skills is the British national skills academy for materials, production and supply, similar in role to the Australian Industry Skills Councils. The program is based around leadership styles and communication, run in companies for a minimum group size of 8. Made up of several workshops which can be customised for individual companies. Face to face workshops plus reading and research and work based projects. |
| Problem Solving and Decision Making | 1 day | http://proskill.co.uk/personal-development/problem-solving-decision-making/ | Pro SkillsUnited Kingdomhttp://proskills.co.uk/Proskills UK - Training & education for people working in the material, production and supply industries. | Participants learn:* the causes of poor decisions and the underlying principles
* how to ensure they understand the ‘real’ issues. This ensures effectiveness and avoids addressing merely symptoms
* how to generate creative ideas, by themselves or in a team
* how to evaluate the different options
* how to convert an idea into an effective course of action.

**Course Outline*****Why Problem-Solving And Decision-Making Methods?******Understanding The ‘Decision/ Problem’******Generating Creative Options/Solutions******Evaluating Options******Implementation*** |

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