

# Profiling industry-relevant management graduate competencies: The need for a fresh approach

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## Abstract

Business schools, the subject of unrelenting criticism in their efforts and success in producing quality graduates, currently lack substantiated guidance on industry requirements. This is further aggravated in Australia by the absence of an active management professional association operating accreditation controls and membership eligibility criteria. This paper outlines the rationale for a more effective approach to profiling industry-relevant competencies in entry-level management graduates. Traditional approaches are reviewed and associated problems are identified and discussed. Constructing realistic and meaningful profiles of industry-relevant competencies in line with evolving business structures, strategies and globalisation, will highlight areas where degree programmes can add value. The outcome would be an opportunity for business schools to design undergraduate programmes more aligned to industry requirements and take effectual action to bridge the graduate skills gap.

*Keywords:* undergraduate; management; competencies; skills; graduate; Australia; employability

## Introduction

Graduate skill gaps are well publicised and an effective means of bridging them would be welcomed by industry and governments worldwide. Business schools are subject to unrelenting criticism (Pfeffer & Fong, 2002; Scott & Yates, 2002; Howard, Jorgensen-James & Nouwens, 2003) of their efforts to develop work-ready graduates and would benefit significantly from current competency profiles highlighting the attitude, skill and behaviour requirements of modern graduates. Traditional competency profiling processes, however, are plagued with problems and a fresh approach is required to provide universities with the means to effectively address skill gaps.

Competency profiling traditionally involves the deterministic process of devising a framework of abilities, skills, traits, values and knowledge which directly enhances individual performance in the workplace. Many (Barry, 1996; McKenna, 2002; Pfeffer & Fong, 2002) believe this oversimplifies the interacting forces determining performance. In addition, there are major concerns with the ambiguous definitions applied to competencies in the profiling process (Marginson, 1993; Grzeda, 2005; Male, 2005). This should not detract from the value of profiling a particular collection of potential recruits, such as management undergraduates, but highlights the need for a more evolved process.

Competency profiling should accurately impart industry's requirements of management graduates to higher education practitioners. It is important for both businesses and educators to broaden their vision of what is required of a high performer: graduates are consistently expected to add value to an enterprise and ultimately the knowledge economy, entrenched in environmental awareness, social responsibility, and effective diversity management. The generated competency profile should provide valuable input into undergraduate course design, content and delivery, and subsequently business school efforts at developing employability in graduates can be more effectively monitored and audited. It is important to effectively extract the opinion of those supervising and working alongside recent business graduates on the competencies which will maximise their performance in the workplace. Of course, whether educators wish to embrace industry opinion on course design and content is another question. Some academics may object to what they perceive as the substitution of enhancing personal intellect, traditionally associated with higher education, with skill development, traditionally addressed by vocational education institutions and workplace training. A mirror evaluation of academic opinion on the nature and composition of the industry-required competency profile, and a comparison with employer findings, would provide a more empirically rigorous and balanced investigation into this important topic. It would also serve to identify and quantify the divide between what industry and academia deem important in business management graduates.

It is important to note that perhaps only a small portion of an industry-relevant competency profile may be nurtured in a higher education environment and applied successfully in the workplace. The criteria is not only

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that developed knowledge and skills are transferable from the degree programme to the workplace context, and thus are generic, but that the workplace environment enables the graduate to unleash these developed competencies. The influence of workplace contextual factors on the successful transfer of learning is well documented (Lim & Johnson, 2002; Ladyshewsky, 2006; Leberman *et al.*, 2006) and supports the notion that, following the compilation of the competency profile, the onus of effectively addressing the skills gap falls not only on educators but also on employers.

### **Management graduate competency profiling: The rationale**

Management competency profiling has attracted half a century of research and evaluation. It is based on the underpinning premise that mastery of prescribed competencies will enhance job performance. Understandably, many studies (Boyatzis, 1982; Dulewicz & Herbert, 1999; Robertson *et al.*, 1999) have attempted to isolate which competencies determine and support the positive relationship between managerial competence and performance. Competency systems are now frequently a means of determining job design, recruitment, compensation, performance management, development needs and outcomes assessment, strategic planning and career advancement. In the education sector, competency frameworks now form the backbone of the vocational education and training (VET) sector in Australia and are infiltrating into schools, technical and further education (TAFE) and, at a slower pace, higher education. This trend is not without challenge as many recognise the difficulties in embedding, assessing and measuring competencies (Drummond *et al.*, 1998; Te Wiata, 2001; Green *et al.*, 2006).

### **Benefits for industry**

Accurate competency profiling would prove an effective means of responding to the business graduate skills gap in Australia hindering innovation, entrepreneurialism, internationalism, efficiency and productivity in the Australian economy. Empirical evidence (Business Council of Australia, 2006; Business Industry and Higher Education Collaboration Council, 2007) reveals ongoing industry concerns with the lack of skills development, deemed as essential for effectively operating in the workplace, in the modern business graduate. The skills gap was identified as a key challenge in the Review of Australian Higher Education (Department of Education, Science and Training, 2008) and for business schools to nurture and develop high calibre graduates, maximising their ability to add value to our globalised economies, it is essential to develop the skills required by contemporary businesses. Aligned undergraduate programmes, based on empirical evidence of industry requirements, will allow future graduates to successfully adopt their roles as “knowledge workers and symbolic analysts, service providers, members of learning organizations, and managers of their own careers” (Atkins, 1999, p. 150).

An accurate and effective profiling process would mean that an aligned business degree, whilst never guaranteeing complete mastery of prescribed competencies, provides some assurance and confidence in a new graduate recruit’s ability and knowledge in profiled areas. This requires certain conditions to be met: (a) communication between industry and business schools on the areas of generated profiles addressed in learning programmes; (b) incorporation of strategies for facilitating transfer in pedagogical design; and (c) due consideration to creating a workplace environment which enables the transfer of acquired knowledge and skills for new graduate recruits.

The identification and clustering of graduate competencies as a means of developing aligned educational programmes is being addressed across disciplines (Snook, 2004; Berman & Ritchie, 2006; Male *et al.*, in press). The need for this has never been stronger as graduates are now required to be increasingly flexible and adaptable in an age of “an unclear graduate promotion ladder, far more project-oriented team working, a consequent need to be able to interact with a wide range of personnel and a less clear chain of responsibility... a wide range of work requirements and greater workload, longer working hours and more responsibility” (Harvey, 1999, p. 5). It is vitally important that profiling methodologies examine typical behaviours associated with identified competencies, thus facilitating effective quantitative analysis and also addressing ambiguity in the operational meaning of each competency.

Nicholson and Cushman (2000), whose studies revealed a significant gap in communication skills between US industry and academy, and others worldwide (Association to Advance Collegiate School of Business [AACSB], 2006; Global Foundation for Management Education [GFME], 2008) recognised the importance of higher education institutions aligning with rapidly changing industry needs, allowing them to “develop their students, improving their likelihood of securing desirable positions in industry” (AACSB, 2006, p. 366). A significant motivator for contemporary competency profiling is addressing the contentious issue of employability. Whilst this proposition conforms to the common belief that business schools should be designing curricula on the basis of economical requirements, described by AACSB (2002) as “outward-facing curriculum design” (p. 27), the focus may extend beyond the traditional skill-based view of employability. Evidence suggests that employers are looking for other qualities and achievements in human capital which traditionally fall outside of the term competencies. For example, UK survey findings by the *Financial Times* and Association of Graduate Recruiters (Kelly, 2002, as cited in Knight & Yorke, 2004), identified the

completion of a gap year, work experience and achieving a degree which was studied away from home as being amongst the top ten desires of employers. As stated by Harvey (1999), “employability is not about training or providing add-on skills to gain employment... [it] is about how higher education develops critical, reflective, empowered learners” (p. 13). The purpose of the competency profile here is to enable educators to identify and assess appropriate development areas for undergraduate programmes which will enhance graduate employability.

Generated competency profiles will add fuel to the ongoing debate of the function of business schools: developer of higher order and intellectual capabilities or producer of skilled workers. Constructed profiles may focus significantly on the development of intellect and higher order skills, advocated by the Australian Institute of Management (AIM) (Boston Consulting Group, 1995), and support the more traditional, liberal arts undergraduate programmes. Alternatively, profiles may purport to the skill-based view of employability and advocate the development of competencies more traditionally associated with workplace learning.

Generated profiles should also inform graduate recruitment strategies, tools and criteria. A rigorous evaluation of the desired attributes and behaviours of graduates across functional areas would provide invaluable information for human resource departments who regularly generate notoriously homogenous and rather tiresome statements of their ideal graduate. On the suggestion of reviewing graduate recruitment profiles as a means of modelling industry-relevant competencies, in other words, reversing the process and generating profiles using existing recruitment files. Harvey (1999) described the graduate recruitment process as “idiosyncratic, pre-judgmental, restrictive, and at times bizarre” (p. 8) and inappropriate as a means of assessing higher education’s efforts in the provision of appropriate and sufficient employability skills.

### **Benefits for graduates**

If competency profiling becomes a means of enabling graduates to obtain an industry-relevant degree, one would expect enhanced personal confidence and performance during the transition from classroom to the workplace. The challenging and grey area of transfer theory raises questions here, highlighting the need for further empirical studies on the progress of aligned graduates and possible comparisons with non-aligned graduates. Employment opportunities are cited as one of the primary reasons for choosing a business degree (Kim *et al.*, 2002) and whilst one would ordinarily expect attaining an aligned business degree to improve one’s work prospects, this relationship is yet to be empirically substantiated (Jackson, 2009). Also, competency profiles in the public domain which differentiate across sectors, functional areas and organisational types, will empower graduates to identify their best-fit work environment through self-reflection and may improve retention rates in new graduate recruits.

## **Traditional competency modelling**

### **Models of competence**

Grzeda (2005) differentiated between the American and British models of competence. In the former, competence is viewed as an independent variable comprising a range of underlying traits and skills, enabling management task performance and influencing management behaviour. In tune, Hellriegel *et al.* (2008) defined management competencies as “sets of knowledge, skills, behaviours, and attitudes that a person needs to be effective in a wide range of positions and various types of organisation” (p. 2). Grzeda recognised the American model is hampered by the problem of conceptual ambiguity with confusing labels applied to all the different parts comprising competence (such as skills, traits, knowledge and attributes) and the lack of attention paid to how they interrelate, interact and influence each other. In contrast, the British model perceives competence more as a list of tasks which one is expected to perform in a particular job role (Cheng *et al.*, 2002). This evaluation of what has been achieved in the workplace forms the basis of professional credentials such as National Vocational Qualifications (NVQs), the Management Charter Initiative (MCI) and assessment pathways adopted by the Australian VET sector.

Profiling industry-relevant skills, knowledge and personal attributes which add value to a range of roles in industry favours the US model of competence. Given the diverse range of entry level graduate positions, across an array of sectors and organisations, it makes sense to analyse the competencies required of graduates themselves rather than the position they are entering. However, it is extremely important to understand and account for the different environments within which graduates operate, as this will have a major influence on their capacity to transfer competencies acquired at university. A graduate’s education is exclusive and traditionally perceived as developing intellect, and responsible for independently creating and validating knowledge (Eraut, 1994). This legacy must continue for higher education to succeed in an environment of intense competition and limited funding. Industry is still preserving the sanctity of graduates, as different entities from other entry level recruits, through unique and dedicated recruitment strategies and competency profiling efforts.

### **Competence and performance**

McClelland (1973) modelled the prediction of superior job performance of information officers, unbiased by

race, sex or socioeconomic factors, based on competency characteristics and was the first to propose a competency framework as a differentiator in effective managerial performance. The definition of competence proffered by Boyatzis in 1982, who analysed the competence assessments of 2,000 US managers to determine which characteristics of managers are related to effective performance and how these different competencies interact and affect each other, reinforced the competence-performance relationship: “an underlying characteristic of the person that leads to or causes effective or superior performance” (as cited in Boyatzis, 2008, p. 8). Boyatzis found that about half of the competencies in the generated model related to “effective performance of managers in particular management jobs in specific organisations” (p. 204). He believed that these generic competencies accounted for one third of the variance in management performance, another third by job and organisational specific management competencies, and the remaining third by situational factors.

### **Competence and organisational environment**

Boyatzis argued that competency enhances performance when a person’s capabilities, encompassing knowledge, values, vision and interests, are consistent with job tasks, roles and responsibilities. He recognised the influence of the organisational environment, identifying factors such as culture, industry cycle and structure, all impacting on job demands and capabilities (Boyatzis, 2008). He argues there is a “best fit” associated with the interaction of job demands, environment and individual capabilities whereby the individual commitment, stimulation and performance levels are maximised. In consideration of environmental influence, Wheeler (2008) concluded that operating in multiple relationships and life spheres, comprising the social environment, can enhance competency development. Ulrich’s (1998, as cited in Burr & Girardi, 2002) innovative formula of “intellectual capital = competence x commitment” fails to account for the role of situational influence in human capital creating value. Burr and Girardi (2002) argued the missing element from this model is opportunity or job control, with empirical research (Jackson & Wall, 1991, as cited in Burr & Girardi, 2002) demonstrating that high control job designs can significantly improve work performance.

### **Classification of competencies**

Despite Schroder’s (1989) overriding focus on senior management, he does account for some entry-level characteristics of the workforce in his model of managerial effectiveness (e.g., knowledge, attitudes, motivation, values and styles), explaining these as emerging from general education or socialisation and as being the “foundations needed to learn to function as a manager” (p. 15). Other forms of management competencies vary from basic, specialised and technical skills (e.g., planning, organisation, controlling, developing and interacting), which Schroder argues can be derived from business education or organisational training programmes. The more general, transferable skills, known as high performance competencies, are evident in higher level managers with superior performance and are clustered into four areas: cognitive, motivating, directing and achieving competencies.

Moloney (1997) argued that any competency model requires two sets of capabilities. Skills, knowledge and understanding are the capabilities required to perform adequately and are essential for interpreting job requirements and also for recruitment, selection, training and development purposes. In contrast, technical standards, targets and objectives are those capabilities which actually drive performance. In a review of over 286 competency modelling studies, Spencer and Spencer (1993) listed, defined and provided scoring criteria for the competencies predicting superior performance in an extensive range of jobs, devising a generic managerial model which encompassed a range of managerial levels, functions and environments.

Cockerill *et al.* (1995) argued there are three perspectives on managerial competencies: Traditionalists are concerned with those associated with rapid career advancement; Inventors are concerned with ones which will be effective for organisations in the future; and Scientists with ones which improve team/individual performance. Traditionalists examine high flyers and assess which characteristics they possess, concluding which characteristics directly influence organisational performance. Inventors attempt to extrapolate into the future to determine the nature of the organisation and its requirements of management. Cockerill *et al.* (1995) supported, alongside others (Spencer & Spencer, 1993; Boyatzis, 2008), the clustering of two types of management competencies. Threshold competencies are used by job holders but not linked with improved performance. Examples are expertise, experience, knowledge and basic cognitive competencies such as memory (Boyatzis, 2008). In contrast, high performance competencies differentiate average and high performers, examples being self-confidence, oral presentation and efficiency orientation (Schroder 1989).

In a review of empirical research, Boyatzis (2008) outlined three clusters of competencies distinguishing high from average performance: emotional intelligence (EI) competencies (self-awareness, self-control and self-management; cognitive competencies (pattern recognition and systems thinking); and social intelligence competencies (empathy, teamwork and social awareness). Boyatzis proposed the framework of emotional, social and cognitive competencies as being directly related to job performance whereby mastery will allow the ability “to recognise, understand and use emotional information about oneself... [and] others... [and] an ability to think or analyse information and situations that leads to or causes effective or superior performance” (p. 8).

Dreyfus (2008) studied the competencies that predict highly effective performance in Research and Development (R&D) managers and explored when and where these competencies were developed. The study utilised the Executive Skills Profile (ESP) instrument to profile managerial skills most critical for effective performance as an R&D manager, and the participant's strength in each, and compared two groups of entry level managers perceived as being the highest and the lowest performers. Findings revealed that technical ability alone is insufficient to manage effectively: people management skills must also be developed through practice, such as experimental and workplace learning, and reflection.

### **Associated problems**

#### ***Interwoven nature***

The interwoven and holistic nature of competencies is the first problem with profiling competencies. McEvoy *et al.* (2005) recognised the benefits of modelling competencies in management education but also the reality that their identification and development can be difficult. In regard to actually identifying industry relevant competencies, Grzeda (2005) recognised the complex nature of management and the difficulty in deconstructing it to a mechanised list of traits. His focus, however, was on senior managerial roles with new graduate positions offering far more opportunity for clearly defined competency requirements. It is important, however, for universities to avoid the 'tick box' approach (Howard, Jorgenson-James & Nouwens, 2003) and recognise synergistic and interrelated nature of graduate competencies. Gibson (2003, p. 4) argued "very few generic or discipline specific skills exist in a vacuum: many skills draw upon others to demonstrate effective acquisition of a particular skill (for example problem solving) while some skills are so fundamental that they permeate the application of nearly every other skill (reflective practice is a good example)". In relation to assessing competency, Rausch *et al.* (2002) acknowledged the "synergistic interaction" devaluing attempts to treat characteristics as "singular entities" (p. 189).

#### ***Ambiguity of terms***

A second problem is the adoption of competency terms and definitions in modelling processes and empirical studies, which are perceived and interpreted differently by stakeholders. Shared understanding of what each competency actually means, and how it is applied in the workplace, is often assumed. This is widely acknowledged across disciplines (Grzeda, 2005; Financial Services Skills Council, 2007) as a major problem when interpreting survey findings. As an example, Dulewicz and Herbert (1999) identified competencies and personal attributes associated with rapid career progression, describing the competencies originally used to rate participants in one or two words, such as *independent* and *business sense*, describing these terms as "self-explanatory" (p. 14). Cockerill *et al.* (1995) describes the outcomes of empirical studies which improperly cluster unrelated competencies as "Moulinex competencies"; likening this to "trying to add apples, pears, bananas and oranges together to get pineapples" (p. 9). They acknowledged that whilst this is widely acknowledged in academic literature, it is still commonly practised.

#### ***Contextual influences***

Thirdly, the role of context must be accounted for when profiling, with organisational and occupational differences potentially forming a significant influence on the competency profile. Grzeda (2005) acknowledged the generic perspective of competency modelling where a set of competencies, such as threshold and performance, are "generalised" (p. 534) across a range of managerial positions and contexts. In contrast, the organic perspective recognises that required competency sets vary according to organisational situation such as strategic position, culture, stakeholder interests and potential sources of competitive advantage. Field (2001) concluded that the context of employment, such as the level of internationalisation, structure, community commitments, organisational goals and the complexity of the operating environment, will significantly influence the competency profile required of new recruits.

The development of independent employability skills programmes, and/or incorporation of generic attributes into existing undergraduate programmes, demonstrate the adoption of the generic perspective by business schools. Whilst the nature of mass education dictates this, the key is to ensure the programmes are addressing and developing a set of competencies which have been rigorously researched and reflect engagement with industry for a wide range of organisational levels, types, strategies and management style. Empirical studies must identify and analyse variations in required competencies dictated by organisational context. As general management is practised across a range of sectors, industries and functional areas, this presents sampling issues, but it is essential to account for a diverse range of organisational contexts. In the long run, extensive empirical research and enhanced professional association input should facilitate the construction of a number of different organic competency profiles, successfully accounted for in undergraduate management programmes.

#### ***Competency as a predictor of performance***

The "tenuous link" (Barry, 1996) between possession of knowledge (enhanced through management education and development) and performance forms the fourth, and major, critique of traditional competency modelling. Citing Cox and Cooper's (1988) statement "there is no evidence that academic learning changes behaviour or develops practical skills such as those required in management" (1996, p. 10), Barry recognised

the lack of understanding on whether training would enhance the performance of successful managers with no formal education. Pfeffer and Fong (2002) undertook a study comparing managers with and without MBAs; the range of internal, organisational studies indicating that non-MBA's achieved the same career progression, - and sometimes better, than their business school counterparts (Lieber, 1999, and Leonhardt, 2000, both as cited in Pfeffer & Fong, 2002). They also cite opinion (Robinson, 1994; Crainer & Dearlove, 1999) that networking and bonding are of greater importance than learning on the programme. Regarding rewards, there was no evidence in the US suggesting higher salaries due to the possession of an MBA (Burt, 2001, as cited in Pfeffer & Fong, 2002) although this is contradicted by studies which found increased lifetime earning power and salaries amongst MBA graduates (Merritt & Hazlewood, 2003, and Thomas & Anthony, 2005, both as cited in AACSB, 2005).

Levenson *et al.* (2006) also acknowledged the limited evidence confirming the use of competency systems as improving organisational performance, due to the influence of contextual variables, perceived as the leadership competencies for different work sites. Similarly, McKenna (2002) described the process of identifying and quantifying competencies associated with high performance as "over simplistic and ultimately meaningless" (p. 680) because of the influence of context. Grzeda (2005) maintained that competency modelling for accurately predicting enhanced performance is less suited to more complex, senior managerial roles. More standardised, junior management positions are more likely to satisfy the assumptions of independence and identifiable outputs which underpin competency frameworks. .

In contrast, Boyatzis (2006, as cited in Boyatzis, 2008) reviewed empirical studies aimed at improving emotional intelligence (EI) abilities and found more than a 10% improvement in the 3 to 18 months following training. In regard to graduate management education, Boyatzis *et al.* (2002) undertook a longitudinal study of MBA students at an American university to assess their development of emotional and cognitive competencies. Using a combination of self-assessment and proficiency rating instruments to measure competencies, findings indicated that MBA students can develop both emotional and cognitive competencies deemed essential for effective management performance. Boyatzis *et al.* recognised the possible intervention of the Hawthorn Effect on externally assessed competency behaviour and the fragility of self-reporting data where participants, who have dedicated considerable time and resources to studying, are asked to assess the frequency in which they demonstrate competence in certain areas. Despite these difficulties in assessing and measuring competency, they remained confident that competency development is possible in appropriately structured learning programmes and advocated outcome assessments to track and measure student learning. Findings indicated that revisions to the MBA programme, namely the incorporation of a leadership module and introduction of a wider range of learning activities, dramatically improved competency development. The improvement levels for this particular MBA programme were not sustained, the drop in impact attributed to the lack of attention paid to review and continuous improvement. This study thus serves to highlight the importance of devising, reviewing and maintaining effective programme design.

The Australian Business Deans Council (ABDC, 2005) found that higher net earnings, resulting in higher tax revenue, higher company profits and a "more innovative, tolerant or stable society" (p. 1) were key benefits of Australian undergraduate business education. Sala (2002), in a review of the effectiveness of EI training in Brazil and the US, found an improvement in EI amongst participants of the one year workshop-based programme, yet recognised the possible influence of intervening factors, such as age, due to the absence of an adequate control group. Cherniss (1999) also contributed to the push for EI training by collating and presenting 19 cases where either enhanced EI competency levels directly improved individual performance or weak emotional competencies resulted in less success in the workplace. Indicators of success and failure across the cases included profit, productivity, revenue, staff turnover and retention rates, conflict management, stress management and training completion rates. Similarly, the AACSB (2005) cited many US studies (Merritt & Hazlewood, 2003; Arizona Small Business Development Centers, 2005; Philanthropy News, 2005) confirming a positive relationship between achieving an MBA and enhancing individual and organisational performance. These identified enhanced career progression, social responsibility, innovation, and return on investment, as indicators of improved performance.

Olshfski and Cunningham (1986), in an examination of the validity of assessment centres, acknowledged the difficulties measuring competencies and their associated development. They identified the lack of knowledge on required management traits and their relative weightings as causing significant and often problematical, reliance on quality test design, assessor instructions and assessor judgement. Iles (1992) recognised the broad function of assessment centres as a means of selecting potential employees, identifying potential high performers, motivating staff, diagnosing training needs and developing competencies. Although his review of the effectiveness of assessment centres produced a rather mixed bag in terms of validity, success in predicting performance and fairness, he concluded that they fare much better than other selection techniques and demonstrate some valid predictive capabilities. He also acknowledged the role of assessment centres as a practical and valid means of analysing and unpacking occupational roles, in accordance with the British model of competence, and the behaviour associated with high performance supported by the American model. The success of assessment centres as a means of measuring competence and predicting performance

remains the subject of intense debate with research firmly focused on both content and construct validity. Identification of required graduate/entry level management traits across a range of domains would help to improve their assessing and predictive capabilities.

Each business faculty, working so hard to develop and embed programmes enhancing graduate employability skills, should be assessing the outcomes of its efforts. This requires assessing undergraduates on competencies as they enter onto a particular programme and periodically as they progress through to graduation. Systems for tracking revisions to programmes should be incorporated and assessments should capture any improvements in competency development as a result of these changes. This works well for evaluating the link between student competency development and performance within the university environment and is essential for fine tuning programme design. It does not, however, answer the question of which competencies should be the focus of development and assessment throughout the undergraduates learning pathway. The answer seems glaringly obvious: identify those competencies in recent graduates which differentiate their performance from other new graduates in the workplace (be it generation of higher profit levels, more rapid career progression or other indicators). This, however, leads us to the problem of transferring learning from the undergraduate education arena to the workplace.

### ***Assumption of competency transfer***

Traditional competency modelling processes assume the effective transfer of learned skills and knowledge to the workplace. As new graduates move from university to the workplace, however, the transfer of their learned skills can be inhibited by their personal characteristics, the learning strategies in their degree programme and the work environment they are entering into. This creates far more “noise” when measuring the competence-performance relationship than for those whose competencies are being developed on the job or in part-time classes and who maintain some continuity and contact with their work environment. The concept of transferring learning across a boundary such as the higher education/workplace one, challenges the premise that competence will automatically enhance performance. The boundary transition is aggravated by the extreme cultural differences between education and the workplace (Candy & Crebert, 1991; Leveson, 2000) such as nature of learning: universities being more prescribed, structured and often de-contextualised and the workplace more self-reflective, poorly defined and ambiguous with less chance of a right/wrong answer. University education also rewards students for analysis and reflection, while most workplaces reward for concrete, goal-directed actions; communication modes at university focuses mainly on the written form (e.g., lecture notes and assignments) and workplaces mainly on the oral form (e.g., meetings and informal discussion). There are also differences in assessment practices: pacing and encouraged time use, and emphasis on individualistic achievement focusing on personal achievement and personal rewards, in contrast to the collaborative nature of work which stresses team goals, team achievements and team results.

The UK’s Association of Business Schools (ABS, 2002) reviewed various studies on the value of undergraduate and postgraduate business education and recognised the difficulties in establishing a clear link between graduate learning and performance in the workplace. The transition through what it describes as a “fairly opaque doorway” (p. 14), where neither employer nor educator know what happens on the other side, significantly hinders efforts to understand and quantify the competency-performance relationship across the education and workplace boundaries. Further understanding of this grey and challenging area of education is required before we rely on graduate competence-performance relationships to be evaluated as a means of identifying the required competency profiles which inform undergraduate programme design.

### ***Appropriateness of modelling management***

A further problem associated with competence modelling is whether it is actually appropriate for the field of management. Sincoff and Owen (2004) focused on the discipline of human resource management and formed parallels with the more general discipline of management, arguing there lacks a clearly defined body of knowledge and skills common to other disciplines. Accounting graduates, for example, must demonstrate mastery of certain skills and knowledge in order to attain certified status at a predefined level. They argued this will inevitably result in debate on which competencies are required and highlights the unlikelihood of designing a “one-size-fits-all-curriculum” (p. 84); again, accentuating the call for diverse and far-reaching organisational analysis. Hager and Holland (2006) described two models of management: Level Three focusing on management candidates who typically graduate from Technical and Further Education (TAFE) and are able to learn the more technically focused management skills on the job, such as front line management; Level Four focusing on graduates who are assumed to acquire generic managerial capabilities upon graduation, an assumption hampered by the lack of clarity about what the science of management should consist of or “even whether it is properly called a discipline based on a well established body of theoretical knowledge” (p. 77).

The focus on workplace learning and continually striving to achieve highly individualised and contextualised outcomes supports Mintzberg’s (2005) theory that management skills cannot in fact be learned in a higher education environment. This complements support of undergraduate management programmes focusing predominantly on the development of critical and analytical thinking abilities. McCall and Hollenbeck (2008) reviewed successful cases of company leadership where individuals are familiar with the product, processes

and history of the company, thus working within their 'expert' domain and a context within which they are comfortable. Kotter (1982) also supported this notion that management competencies are context specific. Rather than accepting this, management educators should now be focusing their efforts on the development of "mega leaders" who are able to operate and lead across multiple domains. This can only be achieved through a better appreciation of the factors which facilitate and inhibit the transfer of learned skills from across domains such as the university, workplace and different areas of industry.

A further barrier is the belief that the ability to manage is a talent or form of expertise which is in fact innate, implying the redundancy of management education. As a parent of identical twins, the nature/nurture debate is of great interest, yet I struggle with the notion that people are naturally born with the ability to confidently and effectively manage without being educated in this area. This sentiment also applies to graduates displaying a propensity for management when entering the workplace. I believe that undergraduate management education can go a long way to enhancing a person's management capabilities as these extend far beyond having a natural ability to lead. Example competencies would be the effective development of solutions (often requiring technological applications) to a given set of problems; addressing and resolving contentious issues with stakeholders; working productively with people from diverse cultures and backgrounds; initiating and managing change, managing projects; motivating and developing others through coaching and mentoring techniques; and, finally, behaving in a moral and socially responsible manner. Even for a "natural" manager, accepted and legislated policies and practices are becoming increasingly complex in light of our ever changing and globalised working environments. Management education should be viewed as a means to fine-tune, enhance and evolve current knowledge, skills, attitudes and practices and can potentially make the difference between a good and average potential or practising manager. As summarised by Ericsson *et al.* in 1993 (as cited in McCall & Hollenbeck, 2008), "the differences between expert performers and normal adults reflect a life-long period of deliberate effort to improve performance in a specific domain" (p. 21).

For undergraduate management education to both survive and flourish, we should be focusing our efforts on identifying, researching, devising and promoting a knowledge and skill set specifically required by employers worldwide. In a climate of economic gloom, we need employers to value undergraduate management programmes delivering highly skilled and academically challenged employees. We need to make undergraduate management graduates, as marketable as those from engineering or medicine. ABS (2002) confirmed that UK employers do not specifically seek business and management graduates and that the field is not viewed as a vocation with the focus remaining on individual graduate talent rather than a defined skill set. If AACSB (2002) is correct in the assertion that "collected evidence from business school alumni suggests that the most important predictor of business success is management effectiveness" (p. 19), the management skill set is a highly marketable tool. GFME (2008) acknowledged the permeation of management practice throughout the world of work and at every level of organisation, a fact that undergraduate programmes should be capitalising on.

### **Current profiling practices**

Many (Dulewicz & Herbert, 1999; Rausch *et al.*, 2002; Dreyfus, 2008; Jansen *et al.*, 2008) have focused on the competency profiling of middle to senior managers with significantly few on entry level or trainee positions. There exists a wealth of empirical research on the competency requirements of management postgraduates (Duoc & Metzger, 2006), most commonly those completing the MBA, with empirical findings indicating a lack of alignment of programmes with the competencies required by business (Porter & McKibbin, 1988; Mintzberg & Gosling, 2002; GMAC, 2006), each identifying too much emphasis on quantitative analysis and too little on developing leadership, interpersonal and communication skills as common problems. Whilst the focus of this paper is not to debate the value of postgraduate studies, it is important to also acknowledge those advocating the economic value of the MBA. The Association to Advance Collegiate Schools of Business (AACSB) described the value of management education as being "almost incalculable" (2005, p. 5) and identified job creation and community development through research as key benefits of the MBA. This symbiotic relationship is even more of a hot topic because the assignment for blame for the current global economic crisis is heatedly discussed.

AACSB clearly recognises the lack of collaboration between business schools and industry (2006) and the need for management education to "develop mechanisms for understanding the essential competencies and skill sets of business school graduates, forecasting how those competencies will change in the future, and assessing the level of mastery of those skills and competencies" (p. 9). These criticisms, in conjunction with increasing levels of accountability, globalisation, media exposure, competition and changing student needs, have caused fundamental changes to the delivery, content and structure of MBAs worldwide. This commonly includes the incorporation of multidisciplinary designs and action learning (Pfeffer & Fong, 2002), and a movement towards demonstrated competencies, as well as knowledge, as a measurement of managerial effectiveness (Brownell & Chung, 2001). Magill and Herden (1998) believed that the same skill sets are required of both undergraduates and MBA students because effective managers, whether at CEO or first line

supervisor level, need the same attributes. As the profiling of undergraduate management competencies develops, comparative studies with MBA graduates will allow further insight on this opinion.

The work of Rausch *et al.* (2002) clarified the link between learning management skills at both undergraduate and postgraduate levels and for practising managers. They outlined the role and importance of both technical and non-technical management decision making and advocated groups of decision considerations which, when mastered, ensure learners have “a solid foundation for meeting the non-technical challenges of their managerial responsibilities” (p. 192). The importance of introducing and developing skills and techniques at undergraduate level to deal with the practice and challenges of management is supported by Brotheridge and Long (2006), who believed students are taught a range of topics in business but little on the actual problems they will face and the techniques and approaches they may adopt to adequately deal with them. This adds weight to Gosling and Mintzberg’s (2002) argument that “contemporary business education focuses on the functions of business more than the practice of managing” (as cited in Pfeffer & Fong, 2002, p. 84). McEvoy (1998) summarised this as “educators focused more on teaching about management versus how to manage” (p. 655). Rather than working through the ranks of management training and secondments, Hayes (2006) believed:

Management skills have been academicised to the point that everyone knows the theory but few practice the skills. Instead preferring to adopt leadership development initiatives that focus on buzz words like EI, appreciative inquiry, visioning, self development and the likes, in the faint hope they will learn what it takes to support and lead performance without getting their hands too dirty in the process. (p. 17)

### Looking to the future

Firstly, contemporary competency profiling must account for the increasing complexity and interdependence of the business world today. This means addressing challenges such as rapid social and technological change, globalisation, diversity, growing conflicts and ecological destabilisation (Rychen, 2002); and external trends such as the decline in manufacturing, increasingly diverse labour force, greater focus on quality and growth in the service sector, evolving organisational structures favouring self-managed teams and networked or virtual systems, new leadership approaches in the light of increased accountability, participative decision making and enhanced employee development (Mathews, 2001).

To support the vital move of the purpose and benefit of management competence modelling beyond the causal relationship between competency and performance, profiling must also account for controlling factors such as employer motivations for recruiting graduates, organisational strategy and sector type. Future research should identify associated behaviours with each industry-required competency in a range of organisational environments. McKenna (2002) advocated the development of a “behavioural repertoire” (p. 680) rather than the concept of competence as this accounts for contextual variations and skill application requirements. Identifying behaviours will also assure homogenous interpretation of the meaning of individual competencies and their application in the workplace. Empirical research should aim to identify accepted levels of behaviour for each competency through critical incident analysis of recent graduate performance.

Grouping competencies into meaningful and synergistic clusters is also essential. Whilst combining is commonly practised (Berman & Ritchie, 2006; Dreyfus, 2008), it must facilitate empirical analysis of the relative importance of both the clusters and the individual competencies themselves. As summarised by Rausch *et al.* (2002), “if a model is to be used, it must be one that provides reasonably convincing arguments about why and where the skills are to be applied, and how they relate to each other” (p. 188). Such groupings are best constructed through the conceptual analysis of a comprehensive and current literature review of industry-required competencies.

It is important to note opinion that employer demands of graduates are often unrealistically high (Gallagher, 2000; Cornford, 2005), with new recruits increasingly expected to possess the knowledge and skills to move into entry-level management roles and add value on day one. In light of reduced graduate loyalty, increased accountability and tough global economic climates, this situation is unlikely to ease and should be monitored carefully. A competency profile will hold little value if the content, those skills and values deemed essential by industry, is consistently beyond the scope of the undergraduate programme. A system allowing employers to actively weight the necessity of developed competencies against each other, rather than allowing them to advocate the essentiality of all, would assist higher education in aligning programmes as well as identifying trends within industry. The fluidity of international business and the evolving face of management dictate an ongoing process of continually reviewing generated management competency profiles if undergraduate programmes are to be consistently aligned with industry requirements.

The challenging and rather murky area of transfer requires extensive consideration in undergraduate programme design and the adoption of effective learning, delivery and assessment strategies. Whilst this lies beyond the scope of this paper, it is essential that educators identify, understand and manipulate those

factors facilitating and inhibiting the transfer of learning from classroom to workplace. A review and appropriate application of strategies effectively encouraging transfer (Haskell, 2001; Lim & Johnson, 2002; Ladyshevsky, 2006) will enhance prospects of successful transfer. Educators should analyse the behaviour sets associated with required competencies and encourage them through emulating the workplace setting and incorporating real life learning activities.

Putting aside the economic gains of competency modelling, and focusing on the survival of individual business schools, it is essential for academic institutions to differentiate their cohort of graduates from others. As the Bologna degree structure gradually permeates worldwide, it will become increasingly necessary to model and meet industry required competency profiles and equip graduates with appropriate employability skills. GMAC (2005) acknowledged the need for regions adopting the Bologna accord to gain industry understanding and acceptance of the new bachelors programmes and recommended “higher education needs to listen to employers to produce graduates with the required generic skills without compromising academic integrity” (p. 9).

### **A literature derived competency profile**

A first step adopted by many in competency profiling is the compilation and interpretation of required competencies derived from literature (Gabric & McFadden, 2001; Ferris *et al.*, 2005; Male *et al.*, in press). Conditions for constructing an industry-relevant and current profile would be to review relatively recent literature from an industry perspective, providing a benchmark of requirements for empirical investigation. The competencies of middle and senior management are not considered relevant for graduate profiles. The generalised nature of the competency profile may not complement or capitalise on the potential sources of competitive advantage available to individual organisations (Levenson *et al.*, 2006) yet higher education fosters the development of competencies deemed significant and relevant to the wider economy and society. Hopefully, accounting for a broad range of organisational scenarios and positions will possibly serve to identify, and therefore nurture, organic competencies common to some groups of organisations.

### **Balance of disciplinary and generic skills**

Discussions on the dimensions of graduate competency models frequently focus on the balance of disciplinary knowledge and generic skills. Nunan (1999, as cited in Bowden *et al.*, 2000) argued the four main categories of (graduate) attributes consist of disciplinary knowledge; generic skills enabling the application of knowledge; citizenship; and a capacity for employment and personal flexibility. McKenzie, Morgan, Cochrane, Watson and Roberts (2002, p.7) proposed a “nested domain of human capability” model for undergraduate management programmes which comprised of personal capability, professional capability and disciplinary capability. In contrast, some (Stasz & Brewer, 1999; Beckett & Mulcahy, 2006) believe only discipline specific attributes should be learned at university, with other competencies best developed in the workplace. Crebert *et al.*, (2004) believed the suitability of generic skill development in higher education varies according to skill, although students being informed of their importance and available opportunities for practice are essential for successful development.

The profile constructed for empirical investigation is likely to encompass only a small element of disciplinary knowledge, purporting to Knight and Yorke (2002)’s review of literature and conclusion that employers are more interested in generic skills than discipline: “give us a bright and engaged graduate, and we will build specific expertise for this organisation on top of that” (p. 262). This point is illustrated by Purcell and Pitcher (1996, as cited in Knight & Yorke 2002) who found that for many years over 40% of graduate jobs advertised in the UK have been indifferent to the specific subject of study. Whilst some occupations may require more discipline specific skills, such as social work, the field of management requires a more broad based competence with management, leadership and organisational theory potentially only a small part of the skill set.

### **Current graduate deficiencies**

The generated profile should also address empirical evidence of the current deficiencies in business graduates. These tend to focus on the inadequate development of softer skills (Magill & Herden, 1998; Dodd *et al.*, 2002), emphasised by Halfhill and Nielsen (2007) as a means of improving turnover, profit, sales and stock market value. Dodd *et al.* argued these skills represent a lifelong learning need and are especially important because of the “flattening of organizations, the emphasis on lateral relationships, and the increased use of participatory management techniques” (p. 189). As new research emerges on the nature of the management graduate skills gap, this should be incorporated, and the profile regularly reviewed for relevance and responsiveness to national and global economic trends.

The profile should summarise the different perspectives on the full range of competencies, attitudes and values deemed important in management graduates, and will highlight the extent of ambiguity in competency definitions. The need to clarify competency meanings is being addressed in other discipline areas such as engineering (Scott & Yates, 2002; Male *et al.*, in press). The profile will also assess concerns for

unrealistically high expectations of Australian employers on “graduateness”, a term introduced by the UK’s Higher Education Quality Council (Yorke, 2006).

## Conclusion and future research

An efficient method for profiling competencies in management graduates is essential for addressing the current skills gap in Australia. As stated by Brotheridge and Long (2006), “educators should be addressing the pragmatic, day-to-day practice of management; we should not expect students and managers to extrapolate from generic theories the specific ideas that address workplace problems” (p. 839). Given the absence of professional association input on industry-relevant competencies and control of entry through accreditation, the process of profiling should provide invaluable guidance to business schools in a climate of dissent and continued critique of their efforts to produce appropriately skilled and engaged graduates. Generated profiles should indicate the extent to which undergraduate programmes can nurture and develop the competencies desired by industry. Many may fall outside the scope of higher education as we know it, prompting further review of the role and nature of business schools in the 21st century and raising issues with graduate induction programmes and workplace learning.

Whilst Rausch *et al.* (2002) advocated the defining of competencies as the responsibility of individual business schools, I maintain that an effective competency profiling process, and subsequently generated profiles, should be in the public domain. It then remains the responsibility of individual business schools to design programmes and facilitate the transfer of required skills and knowledge to effectively addressing identified industry requirements.

In regard to current literature and empirical study, the development of a formal definition of competence in management undergraduates is not yet possible. Definitions vary with conceptual understanding of competency terms; organisational structure and strategic positioning; and the indicators of competence selected, such as performance, efficiency and productivity. Profiling must adequately account for these variations and, although unlikely to account for the full range of organic competencies, the generated profile should be representative of and accurately reflect the needs of a vast range of organisation types.

Conducting mirror studies of competency requirements in other developed knowledge economies, such as the UK or USA, would allow an international comparison of employer requirements of entry-level management graduates and greater understanding of the role and influence of culture and environmental conditions. The gravity of conducting such research, in light of assailing critique on business schools, should not be underestimated.

## References

- Association to Advance Collegiate School of Business International (2002). *Management education at risk: Report of the Management Education Task Force to the AACSB-International Board of Directors*. Tampa, FL: AACSB International.
- Association to Advance Collegiate School of Business International (2005). *Why management education matters: Its impact on individuals, organizations and society*. Tampa, FL: AACSB International.
- Association to Advance Collegiate School of Business International (2006). *Business and business schools: A partnership for the future*. Tampa, FL: AACSB International.
- Australian Business Deans Council (2005). *Economic value of university business education*. Report by Access Economics Pty Limited for Australian Business Deans Council. Barton ACT, Australia: Access Economics.
- Association of Business Schools (2002). *The value of business and management education*. A report by Wendy Hirsh, John Burgoyne and Sadie Williams for The Association of Business Schools. London: ABS.
- Atkins, M. J. (1999). Oven-ready and self-basting: Taking stock of employability skills. *Teaching in Higher Education*, 4, 267-280. doi:10.1080/1356251990040208
- Barry, B. (1996, January). *The development of management education in Australia* (Monash University Faculty of Business & Economics Working Paper). Victoria, Australia: Monash University.
- Beckett, D., & Mulcahy, D. (2006). Constructing professional's employabilities: Conditions for accomplishment. In P. Hagar & S. Holland (Eds.), *Graduate attributes, learning and employability* (pp. 243-265). New York: Springer.
- Berman, J., & Ritchie, L. (2006). Competencies of undergraduate business students. *Journal of Education for Business*, 81, 205-209. doi:10.3200/JOEB.81.4.205-209
- Boston Consulting Group (1995). *Enterprising nation: Renewing Australia's managers to meet the challenges of the Asia-Pacific Century. The Australian manager of the 21st century*. Canberra, Australia: AGPS.
- Bowden, J., Hart, G., King, B., Trigwell, K., & Watts, O. (2000). *Generic capabilities of ATN university graduates*. Canberra, Australia: Australian Government DETYA.
- Boyatzis, R. (1982). *The competent manager*. New York: Wiley.
- Boyatzis, R. E. (2008). Competencies in the 21st century. *Journal of Management Development*, 27, 5-12. doi:10.1108/02621710810840730
- Boyatzis, R., Stubbs, E., & Taylor, S. (2002). Learning cognitive and emotional intelligence competencies through graduate management education. *Academy of Management Learning & Education*, 1, 150-162.
- Brotheridge, C. M., & Long, S. (2006). The “real-world” challenges of managers: Implications for management education. *Journal of Management Development*, 26, 832-842. doi:10.1108/02621710710819320
- Brownell, J., & Chung, B. G. (2001). The management development program: A competency based model for preparing hospitality leaders. *Journal of Management Education*, 25, 124-145. doi:10.1177/105256290102500203

- Burr, R., & Girardi, A. (2002). Intellectual capital: More than the interaction of competence x commitment. *Australian Journal of Management*, 27(Special Issue), 77-88.
- Business Council of Australia (2006). *Changing paradigms: Rethinking innovation policies, practices and programs*. Melbourne: Business Council of Australia.
- Business Industry and Higher Education Collaboration Council (2007). *Graduate employability skills*. Barton, ACT, Australia: Commonwealth of Australia.
- Candy, P. C., & Crebert R. G. (1991). Ivory tower to concrete jungle: The difficult transition from the academy to the workplace as learning environments. *The Journal of Higher Education*, 62, 570-592. doi:10.2307/1982209
- Cheng, M., Dainty, A. R. J., & Moore, D. R. (2002). The differing faces of managerial competency in Britain and America. *Journal of Management Development*, 22, 527-536. doi:10.1108/02621710310478495
- Cherniss, C. (1999). *The business case for emotional intelligence*. Report for Emotional Intelligence Consortium. Retrieved March 11, 2009 from [http://www.eiconsortium.org/reports/business\\_case\\_for\\_ei.html](http://www.eiconsortium.org/reports/business_case_for_ei.html)
- Cockerill, T., Hunt, J., & Schroder, H. (1995). Managerial competencies: Fact or fiction. *Business Strategy Review*, 6(3), 1-12. doi:10.1111/j.1467-8616.1995.tb00095.x
- Cornford, I. (2005). Challenging current policies and policy makers' thinking on generic skills. *Journal of Vocational Education and Training*, 57, 25-46. doi:10.1080/13636820500200273
- Crebert, G., Bates, M., Bell, B., Patrick, C., & Cragnolini, V. (2004). Developing generic skills at university, during work placement and in employment: Graduates' perceptions. *Higher Education Research & Development*, 23, 147-165. doi:10.1080/0729436042000206636
- Department of Education, Skills and Training (2008). *Terms of reference - Review of higher education*. Canberra, Australia: AGPS.
- Dodd, N., Brown, F., & Benham, H. (2002). Learning to manage while learning about management: A transition to a competency-based management curriculum. *Journal of Education for Business*, 77, 189-192.
- Dreyfus, C. R. (2008). Identifying competencies that predict effectiveness of R&D managers. *Journal of Management Development*, 27, 76-91. doi:10.1108/02621710810840776
- Drummond, I., Nixon, I., & Wiltshire, J. (1998). Personal transferable skills in higher education: The problems of implementing good practice. *Quality Assurance in Education*, 6, 19-27. doi:10.1108/09684889810200359
- Dulewicz, V., & Herbert, P. (1999). Predicting advancement to senior management from competencies and personality data: A seven-year follow-up study. *British Journal of Management*, 10, 13-22. doi:10.1111/1467-8551.00108
- Duoc, T. Q., & Metzger, C. (2006). Quality of business graduates in Vietnamese institutions: Multiple perspectives. *Journal of Management Development*, 26, 629-643. doi:10.1108/02621710710761261
- Eraut, M. (1994). *Developing professional knowledge and competence*. London: Falmer Press.
- Ferris, G. R., Treadway, D. C., Kolodinsky, R. W., Hochwarter, W. A., Kacmar, C. J., Douglas, C., & Frink, D. D. (2005). Development and validation of the political skill inventory. *Journal of Management*, 31, 126-152. doi:10.1177/0149206304271386
- Field, L. (2001). *Industry speaks! Skill requirements of leading Australian workplaces*. Barton, ACT, Australia: Commonwealth of Australia.
- Financial Skills Sector Council (2007). *Graduate skills and recruitment in the city*. London: City of London.
- Gabric, D., & McFadden, K. (2001). Student and employer perceptions of desirable entry-level operations management skills. *Mid-American Journal of Business*, 16(1), 51-59.
- Gallagher, M. (2000). *The emergence of entrepreneurial public universities in Australia. Paper presented at the IMHE General Conference of the OECD Paris, September 2000* (Occasional paper series OO/E). Canberra: Department of Education, Training and Youth Affairs.
- Gibson (2003). A framework for developing and assessing generic capabilities in QUT law graduates. *B-HERT News*, 16, 4-5.
- Global Foundation for Management Education (2008). *The global management education landscape: Shaping the future of business schools*. Canada: GFME.
- Graduate Management Admission Council (2005). *The future of graduate management education in the context of the Bologna Accord (highlights)*. Report by Rebecca Loades for the Graduate Management Admission Council. Milan: GMAC.
- Graduate Management Admission Council (2006). *Corporate recruiters survey*. Retrieved March 12, 2009, from <http://www.gmac.com/nr/ronlyres/6838813e-4238-4b78-9c3d-f4ac11592ba6/0/corprecsurvey06surveyreport.pdf>
- Green, W., Hammer, S., & Stephens, R. (2006). Embedding graduate skills into a first year management course: Theory, practice and reflection. *Proceedings of the 2006 Annual International Conference of the Higher Education research and Development Society of Australia (HERDSA)*, 29, 131-137.
- Grzeda, M. M. (2005). In competence we trust? Addressing conceptual ambiguity. *Journal of Management Development*, 24, 530-545. doi:10.1108/02621710510600982
- Hager, P., & Holland, S. (Eds.). (2006). *Graduate attributes, learning and employability*. Dordrecht, Netherlands: Springer.
- Halfhill, T. R. & Nielsen, T. M. (2007). Quantifying the "softer side" of management education: An example using teamwork competencies. *Journal of Management Education*, 31, 64-80. doi:10.1177/1052562906287777
- Harvey, L. (1999). Employability: Developing the relationship between higher education and employment. *Fifth Quality in Higher Education 24-Hour Seminar (Warwick University)*. Birmingham, England: Centre for Research into Quality.
- Haskell, R. E. (2001). *Transfer of learning: Cognition, instruction and reasoning*. San Diego, CA: Academic Press.
- Hayes, K. (2006). Get fundamental management skills right first. *Training & development in Australia, February*, 17-18.
- Hellriegel, D., Jackson, S. E., & Slocum, J. W. (2008). *Managing: A competency based approach* (11th ed). Mason, OH: Thomson South-Western.
- Howard, P., Jorgensen-James, D., & Nouwens, F. (2003). Enhancing learning and employability of engineering graduates at Central Queensland University: A ten-year project. *B-HERT News*, 16, 23-26.
- Iles, R. (1992). Centres of excellence? Assessment and development centres, managerial competencies and human resource strategies. *British Journal of Management*, 3, 79-90. doi:10.1111/j.1467-8551.1992.tb00037.x
- Jackson, D. (2009). Undergraduate management education: Its place, purpose and efforts to bridge the skills gap. *Journal of Management & Organization*, 15, 206 - 223.
- Jansen, J. J. P., George, G., Van den Bosch, F. A. J., & Volberda, H. W. (2008). Senior team attributes and organizational ambidexterity: The moderating role of transformational leadership. *Journal of Management Studies*, 45, 982-1007. doi:10.1111/j.1467-6486.2008.00775.x

- Kim, D., Markham, F., & Cangelosi, J. (2002). Why students pursue the business degree: A comparison of business majors across universities. *Journal of Education for Business*, 78(1), 28-32.
- Knight, P. & Yorke, M. (2002). Employability through the curriculum. *Tertiary Education and Management*, 8, 261-276. doi:10.1023/A:1021222629067
- Knight, P. & Yorke, M. (2004). *Learning, curriculum and employability in higher education*. London: RoutledgeFalmer
- Kotter, J. P. (1982). What effective general managers really do. *Harvard Business Review*, 60(6), 156-67.
- Ladyshevsky, R. (2006). Extending the boundaries of learning in management education: An integrative approach for promoting transfer of training into the practice environment. *Critical Visions: Proceedings of the 29th HERDSA Annual Conference, Western Australia, 10-12 July 2006* (pp. 175-183). Milperra NSW, Australia: HERDSA.
- Leberman, S., McDonald, L., & Doyle, S. (2006). *The transfer of learning: Participant's perspectives of adult education and training*. Aldershot, England: Gower.
- Leveson, L. (2000). Disparities in perceptions of generic skills: Academics and employers. *Industry & Higher Education*, 14, 157-164.
- Levenson, A. R., Van Der Stade, W. A., & Cohen, S. G. (2006). Measuring the relationship between managerial competencies and performance. *Journal of Management*, 32, 360-380. doi:10.1177/0149206305280789
- Lim, D., Johnson, S. (2002). Trainee perceptions of factors that influence learning transfer. *International Journal of Training and Development*, 6, 36-48. doi:10.1111/1468-2419.00148
- Magill, S. L. & Herden, R. P. (1998). Using educational outcomes and student portfolios to steer management education. *Journal of Management Education*, 22, 567-589. doi:10.1177/105256299802200502
- Male, S. (2005). *Development and validation of an instrument to assess the generic competencies of engineering graduates*. Unpublished manuscript, University of Western Australia, Perth.
- Male, S., Bush, M., & Chapman, E. (in press). Generic competencies required by engineers graduating in Australia. *Journal of Engineering Education*.
- Marginson, S. (1993). *Arts, science and work: Work-related skills and the generalist courses in higher education*. Canberra, Australia: AGPS.
- Mathews, P. (2001). *Putting Australian management education into context: A brief review* (Working Paper No. 11/01, pp. 1-24). Bathurst NSW, Australia: Charles Sturt University Faculty of Commerce.
- McCall, M. W., Jr., & Hollenbeck, G. P. (2008). Developing the expert leader. *People & Strategy*, 31(1), 20-28.
- McClelland, D. (1973). Testing for competence rather than for "intelligence". *American Psychologist*, 28, 1-14. doi:10.1037/h0034092
- McEvoy, G. M. (1998). Answering the challenge: Developing the management action skills of business students. *Journal of Management Education*, 22, 655 - 670. doi:10.1177/105256299802200507
- McEvoy, G. M., Hayton, J. C., Warnick, A. P., Mumford, T. V., Hanks, S. H., & Blahna, M. (2005). A competency-based model for developing human resource professionals. *Journal of Management Education*, 29, 383-402. doi:10.1177/1052562904267538
- McKenna, S. (2002). Can knowledge of the characteristics of "high performers" be generalised? *Journal of Management Development*, 21, 680-702. doi:10.1108/02621710210441676
- McKenzie, A., Morgan, C., Cockhrane, K., Watson, G., & Roberts, D. (2002). Authentic learning: What is it, and what are the ideal curriculum conditions to cultivate it in? *Quality Conversations: Proceedings of the 25th HERDSA Annual Conference, Perth, Western Australia, 7-10 July 2002* (pp. 426-433). Milperra NSW, Australia: HERDSA.
- Mintzberg, H. (2005). How inspiring. How sad. Comment on Sumantra Ghoshal's Paper. *Academy of Management Learning & Education*, 4, 108.
- Mintzberg, H., & Gosling, J. (2002). Reality programming for MBAs. *Strategy and Business*, 26(1), 28-31.
- Moloney, K. (1997). Why competencies may not be enough? *Competency*, 5(1), 33-37.
- Nicholson, A. & Cushman, L. (2000). Developing successful employees: Perceptions of industry leaders and academicians. *Education and Training*, 42, 366-371. doi:10.1108/00400910010378476
- Olshfski, D. F., & Cunningham, R. B. (1986). Establishing assessment center validity: An examination of methodological and theoretical issues. *Public Personnel Management*, 15, 85-98.
- Pfeffer, J., & Fong, C. (2002). The end of business schools? Less success than meets the eye. *The Academy of Management Education & Learning*, 1, 78-95.
- Porter, L. W., & McKibbin, L. E. (1988). *Management education and development: Drift or thrust into the 21st Century?* New York: McGraw Hill Book Company.
- Rausch, E., Sherman, H., & Washbush, J. B. (2002). Defining and assessing competencies for competency-based, outcome-focused management development. *Journal of Management Development*, 21, 184 - 201. doi:10.1108/02621710210420264
- Robertson, I., Gibbons, P., Baron, H., MacIver, R., & Nyfield, G. (1999). Understanding management performance. *British Journal of Management*, 10, 5-12. doi:10.1111/1467-8551.00107
- Rychen, D. (2002, October). *Key competencies for the knowledge society: A contribution from the OECD Project Definition and Selection of Competencies (DeSeCo)*. Paper presented at the Education - Lifelong Learning and the Knowledge Economy Conference, Stuttgart, Germany.
- Sala, F. (2002). *Do programs designed to increase emotional intelligence at work—work?* Report for Consortium for Research on Emotional Intelligence in Organizations. Retrieved March 11, 2009, from [http://www.eiconsortium.org/reports/do\\_ei\\_programs\\_work.html](http://www.eiconsortium.org/reports/do_ei_programs_work.html)
- Schroder, H. (1989). *Managerial competence: The key to excellence*. Dubuque, IA: Kendall Hunt.
- Scott, G., & Yates, K. W. (2002). Using successful graduates to improve the quality of undergraduate engineering programmes. *European Journal of Engineering*, 27, 363-378. doi:10.1080/03043790210166666
- Sincoff, M. Z., & Owen, C. L. (2004). Content guidelines for an undergraduate human resource curriculum: recommendations from human resources professionals. *Journal of Education for Business*, 80, 80-85. doi:10.3200/JOEB.80.2.80-85
- Snoke, R. (2004) *Generic attributes of Australian information systems graduates: An empirical study*. Unpublished PhD dissertation, School of Information Systems, Queensland University of Technology, Australia.
- Spencer, L. M., & Spencer, S. M. (1993). *Competence at work*. New York: Wiley.
- Stasz, C., & Brewer, D. J. (1999). *Academic skills at work: Two perspectives*. Berkeley, CA: NCRVE.

- Te Wiata, I. (2001). A big ask: To what extent can universities develop useful generic skills? In F. Bevan, C. Kanes & D. Roebuck (Eds.), *Knowledge demands for the new economy* (pp. 290-297). Brisbane, QLD, Australia: Australian Academic Press.
- Wheeler, J. V. (2008). The impact of social environments on emotional, social, and cognitive competency development. *Journal of Management Development*, 27, 129-145. doi:10.1108/02621710810840802
- Yorke, M. (2006). *Employability in higher education: What it is - what it is not*. Learning and Employability Series 1. York, England: Higher Education Academy.