Business Education for Occupational and Environmental Health in Sustainable Development

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Abstract

Economic and ethical dimensions of social and responsible business are discussed using the value chain construct. Impediments to the growth of social and responsible business are briefly outlined. A business education response to these impediments and to sustainable development in general, is outlined.

1.0 Introduction

In the past two decades business has responded to public policy health and safety imperatives by moving occupational health and safety and environmental management strategy (O&EH&S) out of the realm of market failure towards the realm of non-price profitability strategy (Eddington, 2002). This move, catalysed through revised approaches by government to industrial morbidity and mortality, has (a) largely been achieved through tools and techniques development and application, and education and training, (b) occurred within an incremental greening of business, and (c) been mainly informed by economic and productivity considerations. During the past decade there have been increasing calls for safe and civil society (SCS) and social and responsible business (SRB) (Eddington, Temple-Smith, & Searle, 2004) and again business is responding technically with a clear focus on economics and productivity.

However, when firms position to leverage profits from SCS and SRB, their leveraging is informed by an ethical dimension which has implications for profit taking itself. This small change, (the admission of a wider ethical component to profit taking), if it is not snuffed out, may bring substantial benefits to society through the manner in which business conducts itself. Section 2 below uses the value chain construct to further differentiate between the economic and economic/ethical components of profit taking. Section 3 examines a business education innovation which addresses both of these components.

2.0 Economic and ethical components of business tools and techniques for sustainable development

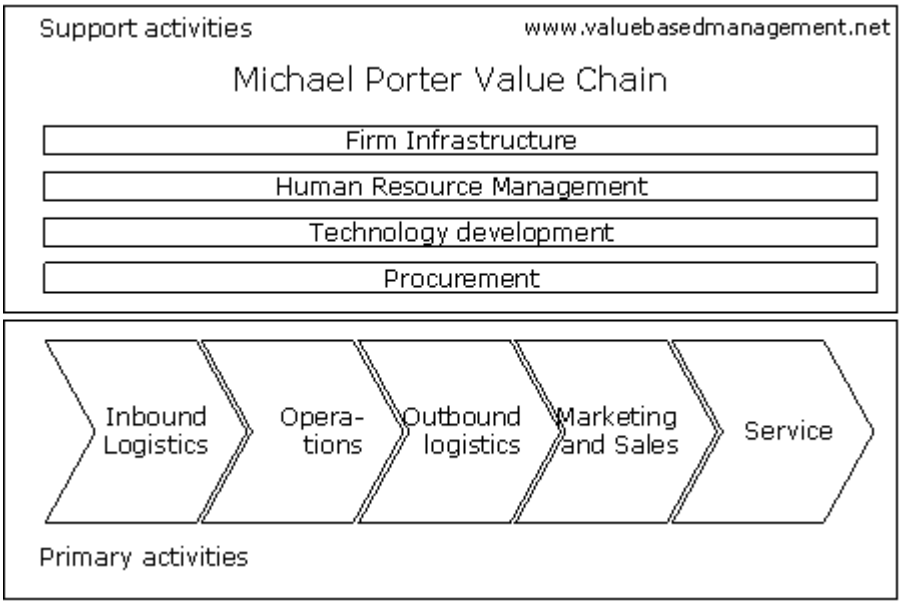
3.1 The economic component

O&EH&S strategy has partly reinvented itself as a non-price productivity initiative aligned with quality assurance and control. This shift in thinking itself catalysed the development of tools and techniques, education and training, and safe job processes and procedures. It is interesting that although the changes in law prompting this shift were largely expressed in ethical (values) language outlining concerns about industrial accidents and disease, industry interpreted, implemented and empowered these changes as matters of economic expediency. The shift of O&EH&S practice from market failure intervention, to non-price productivity strategy, has been accompanied by a tripartite public policy ownership (government, business and labour) of O&EH&S responsibility. The benefits of this shift are further explained through Porter's value chain construct illustrated in Figure 1.

Porter represented (constructed) the firm as a value chain (Figure 1) through which value was added by participation in an external competitive environment. The *primary activities* are the production operations themselves and these happen within the internal environment created by the *support activities*. Law, the quality assurance movement, and education are helping to ensure that occupational health and safety is an integral part of the primary activities of operations management. Likewise occupational health and safety are increasingly included as significant support activities. This inclusion is being driven, inter alia, by human resource management education, design for the environment, clean and green technology initiatives, clean and green procurement initiatives, and firm image and reputation. There is a flow-on to the firm's primary activities.

This tripartite (government, labour and industry) ownership of O&EH&S has been relatively successful in recent decades so that the O&EH&S domain is now hallmarked by (a) *duty of care* and *due diligence* principles supported by statute and (in some countries) common law provisions, (b) industry, trade union, and public responsibility for occupational health and safety through quality assurance, education, and public awareness programs, (c) public and private sector involvement in O&EH&S research, education and training, (d) O&EH&S industry itself including consultancy, and product sales and delivery, (e) compensation, rehabilitation and insurance arrangements, and (f) an active and established O&EH&S NGO presence. Two important caveats are added: the relative success spoken of is uneven between countries and within different economic sectors of individual countries, and (2) some of the hallmarks cited do not exist in (or are not representative of) some countries. Certainly much work remains to be done.

Figure 1: Porter's value chain



Source: Adapted from: http://www.valuebasedmanagement.net/methods_porter_value_chain.html

3.2 The social component

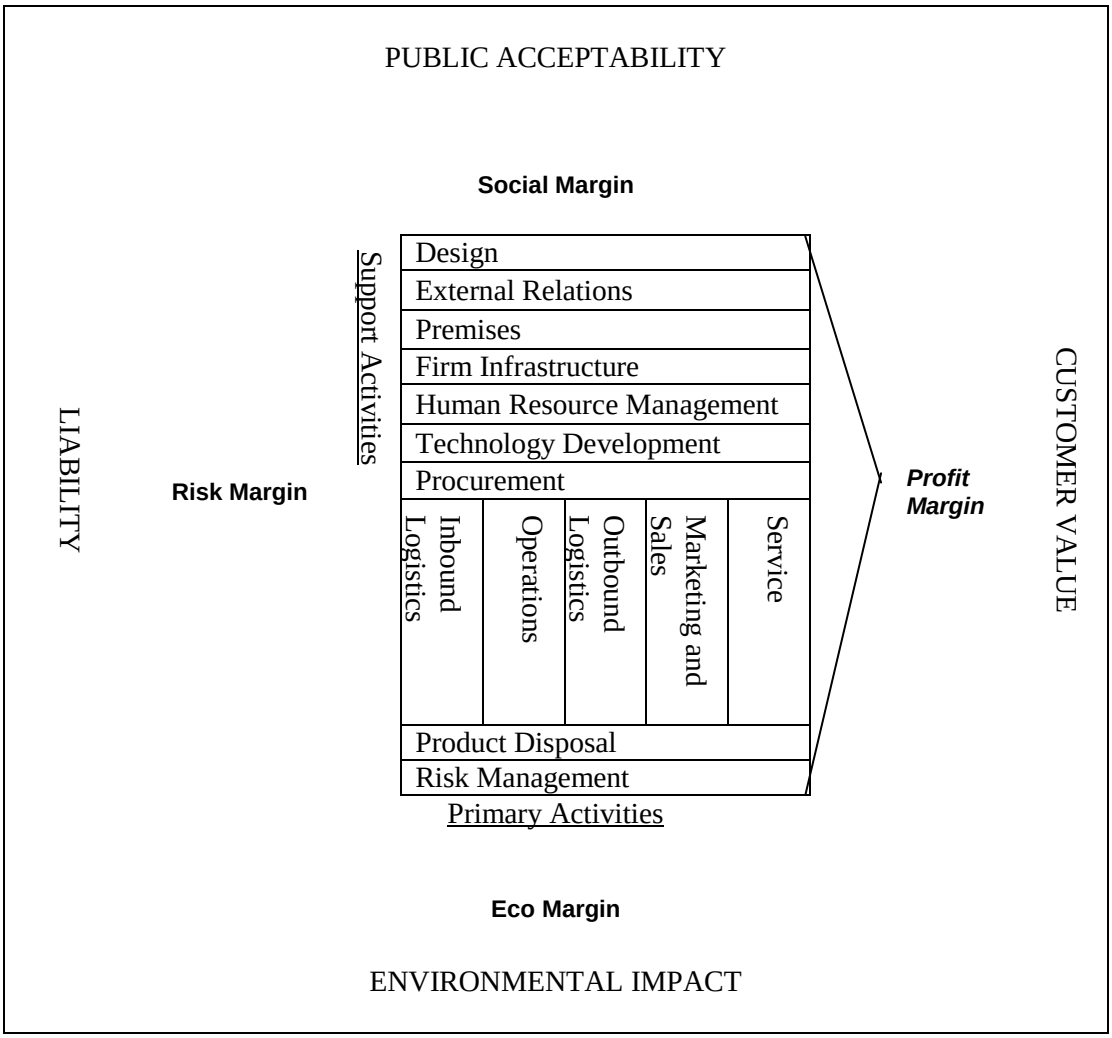
James' sustainability "octagon" (Figure 2) can serve to illustrate the impact of the social dimensions of occupational and environmental health on the profit taking activity of the firm. Three support activities (design, external relations and premises) and two primary activities (product disposal and risk management) contained in Figure 2 represent an extension (a green management version) of Porter's original formulation of the value chain. Each of these additions reveals the evolution of business conduct and performance through interventions that are essentially economic.

However the green management version of the value chain illustrated in Figure 2 also reveals changing forces at play in the socio-business environment external to the firm. These forces dictate that profitability, and even the medium to long term survival of the firm, now depend on more than good green management at each of the levels of *primary* and *support activity*. Three margins increasingly determine profitability: an eco margin, a risk margin and a social margin. It is also acknowledged that there is often a fourth margin that determines profitability, the monopoly margin. The monopoly margin is a measure of the extent to which the limiting of market access to competitors affords returns to the firm. This paper does not discuss monopoly margins.

Firms now have to ask an additional set of questions. Is there a narrowing of the eco margin (the extent to which the firm's products are preferred over substitutes or those of its rivals on environmental grounds)? Is the eco margin working for or against the social margin? For example will savings in exhaust emissions of a petrol engine, and safety design of a vehicle, carry much weight with a pollution-sick citizenry wanting fuel cell power and better driver training and policing? How should risk be managed to account

for eco and social margin impacts on profitability? Should the firm plan a sunset strategy for the existing product or find alternative green uses for it? Other questions can be asked: is the risk margin sufficiently wide to allow an orderly phase in of countervailing

Figure 2: The James sustainability octagon



Source: Adapted from Beaumont, J et al 1993, *Managing the Environment: Business Opportunity and Responsibility*, Butterworths, Oxford, p. 64.

strategy or are there wildcards in the pack? What phase of their life cycle are the source industries in, and what are the implications of this?

Risk margin, social margin and eco margin are, inter alia, informed by occupational and environmental health education, cornered by calls for social and responsible business and safe and civil society, supported or ignored by governments as the case may be, and increasingly becoming part of business consciousness. Business, by its very nature, is bound to benchmark eco margin and social margin strategy against its risk margin and bottom line profitability. However its acknowledgement of the leveraging potential in eco and social margins is part of a shift in thinking by business, about its own conduct and

performance. This incremental shift, although small and fragile, is quite significant in terms of business ecology because it admits a strengthened ethical element to the social margin component of economic (primary and support activity) decision making.

Dominant social and responsible business voices informing the social margin, and enhancing the ethical component of O&EH&S within it, are summarised in Table 3. Word limit constraints do no permit further discussion of all of the organisations and processes cited in Table 3. However some further clarification of Table 3 item IV (evolution in thinking about profit taking, free riding and cognitive dissonance) is provided below.

First, profit taking: some business representatives at major group dialogues within the CSD process continue to deliver a consistent message: if there is no money (suitable profit) in it, we (business) won't go there. This sentiment is expressed in the context of the key role of business in sustainable development, which development is largely predicated on industry led solutions. Support is thin on the ground when the view is put that industry should be part of a broader sustainable development even when profits fail to reach desired benchmarks. It is as though the call for social and responsible business has not been heard, that the substantial philanthropic work of business has not been noticed, and that business itself is not fully aware of the evolution in thinking about profit maximisation as a business goal. Is it unrealistic then to contemplate that profits alone might some day be replaced by mixed and/or different criteria for business decision making?

Harvard University's Michael E. Porter and his colleague Mark R. Kramer (2002) do not appear to think so. In a discussion about corporate philanthropy they explain why Friedman's dictum that "the only social responsibility of business is to increase its profits" is now passé. Friedman is said to base his argument in two assumptions: (1) that social and economic objectives are separate, one coming at the cost of the other and (2) that corporations, when they spend on social objectives, provide no greater benefits than were the spending to have been made by individuals allocating their own income. Porter and Kramer claim that these assumptions are violated when corporations spend philanthropically on promoting *competitive context* - defined as "the quality of the business environment in the location or locations where they (the businesses) practice" (p. 6). Their paper provides other details not discussed here. Whilst the final cause of competitive context spending is not far removed from profit maximisation, such spending is a decidedly social and responsible means to business ends. It is innovative thinking about profit taking and is compatible with the *Agenda 21* philosophy because it aligns long-term business prospects with socio economic goals.

The authors describe competitive context spending as the start of a "virtuous cycle" in which there need be no inherent contradiction between profitability and a commitment to "bettering society". Here are some examples of "competitive context" spending O&EH&S opportunities for business: unification of O&EH&S standards internationally, no sale to illegal arms traders or rogue governments (respect sanctions), no participation in the trade in illegal substances, banned chemicals or stolen biological and chemicals

Table 3: Dominant voices informing the social margin of business

I	**Sustainable Development Itself**		
	#	*Operatives/Forces Involved*	*Process*
	i	CSD Major Groups	The Trade Unions, through their work in Trade Union Social Responsibility (TUSR), Corporate Social Responsibility (CSR), and Government Social Responsibility (GSR).
	ii	Intergovernmental Organisations	The ILO (ILO, 2003) through its SES Index, HIV/AIDS workplace programs, child labour programs, unprotected labour programs and its *Declaration of the Fundamental Principles of Rights at Work.* The WHO through its *Global Strategy on Occupational Health for All,* and its anti worst forms of child labour stance. Many others exist, e.g. the CSD, UNESCO.
	iii	Key Private Organisations	The World Bank (WB, 2003) through its leveraging, inter alia, of health and its support for the *Millennium Declaration*. The World Trade Organisation (WTO) through its green provisions (Article 20 of GATT, technical product and industrial standards, countervailing allowance subsides for the adoption of new environmental laws, health and environment related , and GATS Article 14 health related services trade exemptions.
	iv	NGOs	Some 40,000 are recorded and some are nothing more than political fronts. However many work conservatively with government whilst others push the margins - today's great heresies become tomorrows OK's. Transparency International (corruption) the Demos Foundation (good government), Oxfam (hunger), the World Forum (business) and the World Social Forum (safe and civil society) are well known. Dare we mention Greenpeace and Amnesty International?
II	**September 11 Trickledown**		
	#	*Operatives*	*Process*
	i	Governments and Intergovernmental Organisations,	9/11 trickledown is the generic name here used for the O&EH&S impact of 9/11 itself, SARS, warlord behaviour, piracy, mafias and the like. 9/11 trickledown has thrown an early spotlight on both general and occupational health, especially in respect of laboratory safety, emergency response, the geopolitics of health communication and pandemic control, vulnerability of intergovernmental organisation health workers, disease modelling and national disaster strategy. The tools and techniques response goes to forensic accounting, profiling, communications, surveillance and detection of dangerous and illegal products, DNA tracking, face recognition, speech and human movement analysis, money laundering, detection of rogue infiltration of organisations and banking systems, and so on. O&EH&S benefits will trickle down to job safety analysis for police, customs officials, peacekeepers and foreign aid workers, soldiers, pilots, ships' crews, gamekeepers, doctors, nurses, paramedics, politicians, civil defence workers, inspectors, United Nations workers, and finally spread across a wider range of workplaces.
III	**Social and Responsible Business Itself**		
	#	*Operatives*	*Process*
	i	Mondragon and the Scott Bader Commonwealth	Mondragon (2003) is social business experiment began in 1943 which demonstrates that industrial organisation and safe, decent, and sustainable work can go together. Close community ties and national/racial identity play a significant part in the invention of the organisation named. The Scott Bader Commonwealth (Bader) is a social business experiment informed by a wider humanitarian basis.
	ii	Industry Itself or Industry Associations	Some examples: the chemical industry's *Responsible Care* (ICA, 2003), The International Chamber of Commerce's *Business Charter for Sustainable Development* (ICC, 2003), the Lead Foundation, triple bottom line accounting, ethical investment trusts, HIV/AIDS workplace programs, The Global Compact (Table 3)
IV	**Evolution in thinking about profit taking, free riding and cognitive dissonance**		
	#	*Operatives*	*Process*
	i	Incremental ideas change	Small incremental changes in business thinking about, inter alia, the nature of profit taking behaviour, free riding and cognitive dissonance failure

weapons, materials and know how, eradication of illegal dumping of wastes, child prostitution and soldiery, detection of theft (use by rogue firms) of safety and health

standard logos and brand names and their use by way of false labelling, the phase out of dirty technology, subsidising of research into adverse health and safety effects of products, eradication of concealment of breaches of health and safety standards. Each of these has implications for occupational health and safety and for the long term profitably of social and economic development.

Second, free riding: Porter and Kramer (2002) also touch on the subject and to some extent industry is, inadvertently, finding one answer in the inter-firm and inter-industry value chain. This happens in O&EH&S for example when firms demand certain standards from downstream and upstream clients. In O&EH&S terms this happens on the input side when producers refuse to buy inputs from suppliers who deliver unsafe or faulty products or when firms search out suppliers using clean, green and safe technology over those that do not, or when firms using unsafe work practices or the worst forms of child labour become less preferred suppliers. On the output side it happens when manufacturing firms seek out distributors who will handle unsafe products correctly, or who won't immediately poach trained up personnel. Of course it is notoriously difficult for firms to place conditions on upstream clients especially when there is monopsony. Countries which include green procurement conditions in their government purchasing strategy can do a lot to assist. However none of these strategies is without complications. In general the suggestion is that alliances of industries and firms can eliminate free riders by working together with government within the law to develop now poor, but later rich markets. Legal time limited vertical integrations may be possible in some cases provided they are not permitted to grow into permanent monopolies. It has been proven again and again that once individuals begin to emerge from the poverty trap, health and education loom large on their willingness-to-spend agendas. Such spending is at the beginning of the upward capacity building spiral.

What has been said above in respect of profit taking and free riding is easier to say than it is for industry to do. However it is wrong to say that no progress is being made on these fronts.

Third, cognitive dissonance: a third phenomenon, largely a human condition phenomenon is, however, quite an impediment to progress worldwide. Cognitive dissonance can occur as a function of that state which exists when individuals, after making *a group decision subsequently find themselves as individuals, incapable of abiding by the group* decision. Under this divide individuals are said to behave so as to try to reconcile the difference, which reconciliation mainly takes the form of rational justification for individual actions taken. The precautionary principle may not be adopted as it may not be a clear option within this value spectrum. Specific O&EH&S examples occur when firms and/or workers fail to report on and investigate industrial illness and accident, when hazardous wastes are knowingly illegally dumped, when substandard materials are knowingly wrung into production, when hazardous (eg radioactive materials) are smuggled through the workplaces of unsuspecting people, when workers turn a blind eye to the state of their alcoholic or other drug impaired workmates.

Individuals, firms, industries and governments are complicit in cognitive dissonance failure. In spite of this complicity some strategies are gradually beginning to succeed. The first involves engineering out the perceived hazard and designing for environment and safety. The second (in cases like biotechnology, atomic energy safety, pandemic disease control, and the like) involves passing policing from industry and government, to intergovernmental organisations with interests in humanity rather than profits or the blood, pomp and glory of political states. Finally, NGOs are also having some success in fighting this very human failure. The work of Transparency International has been noted. The key lies in like minded NGOs focussing on agreed-upon codes, standards and scientific principles and not letting these fall between political divisions.

Irrespective of the duality of cognitive dissonance, managers and shareholders should beware that the ethical dimension is very powerful. While humans *dislike* discovering that they have made poor value for money purchasing decisions they often *detest* being let down or deceived in respect of purchases made on the basis of ethical and value decisions and seek, as they do in the case of unsatisfactory value for money purchasing decisions, not to repeat them. The courts too are increasingly being used by industrial and environmental morbidity and mortality victims who have discovered that business compliance to legal and ethical standards has been a sham. Business games are played hard but the small advantages being won by the social and responsible business interests may turn out to be of great strategic importance.

3.0 A business education response to sustainable development

The Association to Advance Collegiate Schools of Business in the July/August 2005 volume of its journal 'BizEd' (Shinn, 2005) recently reported on the introduction of three new 'Green' MBAs in the United States. According to the article each course contributing to each MBA includes sustainability components. These MBA initiatives reflect the growing importance of green issues to the worldwide corporate agenda. In 1997 the University of Southern Queensland introduced a similar MBA course.

The University of Southern Queensland (USQ) is located in Toowoomba, Australia and has been named University of the Year for its distance and e-learning progress. The USQ responded to the *Rio Declaration* and *Agenda 21* by establishing in 1997 an MBA with specialisations in occupational health and safety and environmental management. These MBAs were probably the first of this kind in the world. Other awards have since been developed and these are outlined in Tables 4 and 5.

As the discussion in Section 2 revealed, business has come under increasing pressure to act socially and responsibly. Furthermore this call has come at a time of increased competition, growing globalisation, and ugly terrorism fed by religious intolerance and hatred. As if this is not enough, entrenched attitudes to profit taking are largely the order of the business day and as acknowledged earlier, free riding, and cognitive dissonance remain impediments to reform. To be sure, sustainable business within sustainable development is not an easy thing. However it is a most important thing and is crucial to

the viability of the sustainable development experiment itself. How then have the courses outlined in Tables 4 and 5 been designed to accommodate these difficulties? The following paragraphs address this question.

First, the common specialisation courses (Rows 1 and 2 of Table 4) contain information which outlines the impact of business on human health and human habitat and biological diversity and ecology generally. Second, they contain information about the legal requirement governing business responsibility in respect of human and environmental health and ecology. Third, they provide tools and techniques for sustainable development. Fourth, they address the political dimensions of sustainable development. Fifth, they contain umbrella information of an awareness and capacity building nature about sustainable development in general. How are the ethical components of business accounted for? These are addressed through a human condition segment in the courses which allows intellectual exploration of paradigm boundaries and hopefully encourages individual thinking outside of them. The ethical component is also accessible to those students wishing to write their dissertations in this field, or to explore such issues through electives and project units which are available. These units allow student and course leader to agree on the nature of the project and its content.

The courses spoken about here are offered on a fee for service basis and are available electronically or in hard copy form by distance education. Students completing these courses live in many countries around the world. Instructional design and pedagogical protocols facilitate the efficacy of the course objective and content. For example progressive assessment is important, Harvard case studies are used, assignments are of a practical nature requiring theoretical concept and construct to be applied in work and/or leisure situations, and staff are available via email, phone and discussion group technology. Staff managing the courses track the United Nations Commission for Sustainable Development Annual Meetings, participate in national and international conferences to update their knowledge, and are active members of Non Government Organisations. Unit Specifications and detailed information about the aims and objectives of the awards are available through the USQ web page (http://www.usq.edu.au/default.htm) and/or the USQ electronic handbook (http://www.usq.edu.au/handbook/current/).

4.0 Conclusion

Firms are beginning to respond to calls for social and responsible business by attempting to leverage profits through appeals to ecological and social margins. This is something quite different from decision making, on purely economic grounds, and in the face of government regulation, to leverage profits through the technical application of green tools and techniques at the primary and support levels of the value chain. Social and business margin leveraging admits a very powerful ethical dimension to business decision making. This ethical dimension has the power to reinforce and support the simple non-price productivity strategy. Business education innovation at the USQ, inter alia, addresses these powerful conditions.

Table 4: O&EH&S in sustainable development type courses at the University of Southern Queensland

Row #	Subjects	Degree Options
1	MGT 8010 Corporate Environmental Management MGT 8011 Global Issues in Environmental Management MGT 8012 Tools and Techniques for Sustainable Development MGT8013 Environmental Politics and Policy	Graduate Certificate in Management (O&EH&S) Graduate Certificate in Occupational Health and Safety
2	MGT 8014 Human Factors MGT 8015 Corporate Occupational Health and Safety MGT 8016Occupational Health and Occupational Hygiene MGT 8017 Safety Science in Practice	Graduate Certificate in Management (Environmental Management)
3	Row 1 + Row 2 subjects	Graduate Diploma in Safety Health and Environment
4	Row 1 + Row 2 subjects + any four MBA subjects or Row 1 + Row 2 subjects + a 4 subject equivalent dissertation or action learning project. or Row 1 subjects + Row 2 subjects + a 4 subject equivalent combination of MBA subjects and dissertation/action learning project. e.g. Row 1 + Row 2 + 2 MBA subjects + a 2 subject dissertation or action learning project	Master of Management (O&EH&S)
5	Row 1 subjects + Row 2 subjects + LAW5503 Australian Law and Business OR LAW5504 Comparative Law and Business + MGT5000 Management and Organisational Behaviour OR an MBA Elective + 2 Electives from the MBA subjects	Master of Safety Health and Environment
6	Please see Table 2 for details	Doctor of Business Administration

Source: Extracted from: http://www.usq.edu.au/handbook/current/bus.html passim.

Table 5: Doctor of Business Administration Structure

Structure
The DBA is a 24 unit program comprising 16 units of coursework and 8 units of research. Its structure is: A 12 unit MBA from the USQ (8 MBA core units + 4 specialisation units) **or** equivalent study from another University **plus** MGT 8401 Research Methodology MGT 8402 Research Methodology 2 MGT 8403 The Changing Environment of Business MGT 8404 Advanced Theory and Practice **plus** an 8 unit externally examined research dissertation. Conditions about the order in which courses are to be taken (and about other incremental change aspects of the DBA) should be tracked by googling *Australian Graduate School Of Business* or *University of Southern Queensland.*
Specialisations
Accounting e-Business Environmental Management Finance Human Resource Management Information Systems Insolvency and Restructuring International Business Business Law Leadership, Marketing Occupational Health and Safety Personal Financial Planning Project Management Supply Chain Management Technology Management

Source: Extracted from: http://www.usq.edu.au/handbook/current/DBAD.html

Select Bibliography

Bader, S. (2003). Retrieved 14 February., 2003, from http://www.scottbader.com

Eddington, I. (2002). *The ongoing development of occupational health and safety professionalism and its relevance in Agenda 21 reform.* Paper presented at the 18th Annual Conference of the Asia Pacific Occupational Safety and Health Organisation, Hanoi, Vietnam.

Eddington, I., Temple-Smith, R., & Searle, J. (2004). *Business Ethics: Boardroom Pressures in an Age of Moral Relativism.* Paper presented at the Inaugural Conference of the Acadamy of World Business, Marketing and Management Development, Toowooma, Australia.

ICA. (2003). Retrieved
20 June, 2004, from http://www.lesrussell.com/jcecnsw/tn014.htm

ICC. (2003). *Business charter for sustainable development*. Retrieved 19 January, 2003, from http://www.iccwbo.org/home/environment/charter.asp.

ILO. (2003). Retrieved 14 February, 2003, from <http://iisd.ca/TRADE/haz.htm>

International Labour Organisation Homepage, 2003.
Mondragon. (2003). Retrieved 16 March, 2003, from http://www.mondragon.mcc.es/
Porter, M., & Kramer, M. (2002). The competitive advantage of corporate philanthropy. *Harvard Business Review*(December, 2002), 5-16.
Shinn, S. (2005). The green team. *BizEd, July/August, 2005*, 40-45.
WB. (2003). *World Bank Homepage*. Retrieved 12 February, 2003, from http://www.worldbank.org/