Promoting and assessing integrity in the research degree

Promoting and Assessing Integrity in the Research Degree

Howard Harris
Katalin Illes

Abstract

Although postgraduate research is increasingly supported through the formalisation of supervision and programs providing generic support, those programs have seldom addressed the intention, often stated by universities in their graduate profiles, that postgraduates should have integrity, and ethical values. What methodology is required – how will universities support students to cultivate such sensitivity, assess this, and fulfill the expectation? The paper provides evidence that quality statements including some aspect of integrity are used in many UK and Australian universities. The importance of integrity, or ethical behaviour more generally, in postgraduate degrees and in professional practice is confirmed by reference to Sandor Kopatsy's model of intellectual capital, where knowledge, morality, talent and effort are multiplied together to determine the level of intellectual capital. The main section of the paper considers how assessment might be achieved and the desired qualities fostered. Three distinct forms of moral qualities or skills can be found among those identified by the universities – some refer to technical skills, some describe graduates sensitive to ethical and social issues and some talk of graduates committed to ethical action and social responsibility. The paper draws on the authors' experience in Europe, Australia and Asia.

Keywords

Integrity, research education, ethics, assessment, professions

Introduction

Conceptions of what constitutes quality in post graduate education have changed over the past decade. In some institutions there is a trend to include coursework components in research higher degrees and to greater formalization of the supervision process, and in others a move to give greater weight to intangible aspects of the learning which occurs in a research degree. Some institutions have adopted sets or lists of graduate qualities or generic capabilities and made these, rather than content, the aim their educational programs. Some of those lists contain references to personal integrity. Whilst we agree that personal integrity is essential for full participation in professional practice – a view which some institutions have always held – this can lead to competing and conflicting views of quality. Coursework and lists suggest a more quantitative approach to assessment, seemingly open and transparent, while the assessment of integrity and commitment to ethical behaviour present quite different challenges to the assessors. It is to this latter challenge that we address our attention.

The paper has three sections. The first provides examples, from Australia and the United Kingdom, of the moves to establish sets of graduate qualities or generic capabilities, placing it in the context of wider changes in the nature of research degrees and the growing recognition of the importance of intellectual capital. This is followed by an exploration of the concept of intellectual capital, focusing particularly on the work of the Hungarian economist Sandor Kopatsy and on the important place which it gives to morality. The third section considers how such an ethical quality might be assessed within a postgraduate research degree.

The generic qualities response

Over the past decade or so there have been a number of reviews of the purpose, effectiveness and structure of the postgraduate research degree (see for instance Harman, 2002; Pearson, 2005). Some reviews have been national, others local. Many were prompted by concerns about the effectiveness of research degrees in the eyes of students, graduates, employers and funding agencies, or by staffing concerns within universities. Some reviews recommended the introduction of coursework elements in those degrees where the award has traditionally been by thesis alone and others sought a greater degree of formality in the student-supervisor relationship. In business schools there has been pressure to include explicit ethics components, often in response to pressure from the main accrediting bodies – AACSB and Equis.

The responses have perhaps been as diverse as the reviews. In this section we look first at the adoption of graduate quality criteria in Australian universities and then at responses in the United Kingdom to the 2003 White Paper there.

We have not conducted a rigorous search to determine who has, or has not, gone down this path. There is a more extensive consideration in Gilbert et al (2004), and such an analysis is not the purpose of this paper. Our six examples will, however, provide evidence of the range of responses – which is sufficient to show that our theoretical considerations are relevant – and show that the practice of adopting research degree qualities is not restricted to newer institutions without long experience in the granting of research degrees.

A number, but by no means all, of the forty Australian universities have not only established sets of generic qualities for graduates but also sought to apply them to postgraduate research degrees. Six are included in this analysis. Two are long-established research intensive universities – the University of Melbourne and the University of Western Australia; two are members of the Australian Technology Network, descended in part from centres of technological education established in the nineteenth century – University of South Australia and University of Technology Sydney; and two are institutions with a more recent heritage – Charles Darwin University in the Northern Territory and Edith Cowan University in Perth.

Table 1 shows the graduate qualities – however described – at these six universities. Explicit mention of intellectual

integrity, ethics, social responsibility, equity values or ethical dilemmas can be found in five of the six examples with Edith Cowan having a more general approach, aiming to produce graduates with generic skills including collaboration and teamwork.

development of skills, networks and know-how necessary to build successful careers' which is facilitated by the university's 'strong collaborative links with business, public services and external academic networks'.

Table 1: Qualities of ethics & integrity in research graduates in Australian universities

University of Melbourne	http://ww.sgs.unimelb.edu.au/phd/enrolcandid/phdhbk/intro/attributes.html
Qualities and skills of Melbourne doctoral graduates	14 items including : A profound respect for truth and intellectual integrity, and for the ethics of research and scholarship
University of Western Australia	http://www.postgraduate.uwa.edu.au/home/current/generic_skills
Generic skills of research graduates at UWA	16 "doing" skills and 8 "being" skills including: Ability and capacity at an advanced level to be …sensitive to ethical, social, and cultural issues.
University of South Australia	http://www.unisa.edu.au/resdegreees/gradquals.asp
Research degree graduate qualities	Seven qualities, including …committed to ethical action and social responsibility as a researcher in a discipline or professional area and as a leading citizen
University of Technology Sydney	http://www.gradschool.uts.edu.au/prospective/application/Process/Gradattributes.pdf
Statement of attributes of successful doctoral students	Three categories of attributes, each with a number of descriptors including the ones listed here. Intellectual attributes : application and reflection Professional research and research management attributes: awareness and sensitivity to ethical dilemmas Personal attributes: mature understanding of responsibility to the broader community
Charles Darwin University	http://www.cdu.edu.au/newsroom/documents/cdu-graduate-attributes120506.pdf
Graduate attributes Adopted May 2006	Three core attributes including Citizenship with three skills, communication, teamwork, social responsibility. The descriptor for social responsibility is: Is able to apply equity values, and has a sense of social responsibility, sustainability, and sensitivity to other peoples, cultures and the environment
Edith Cowan	http://www.research.ecu.au
Introduction to ECU's high quality higher degree by research program	The University aims to produce graduates with the knowledge … within their discipline area complemented with generic skills of collaboration and teamwork, problem solving and communication.

In the United Kingdom the urgency of formulating a viable research strategy has been hastened by the publication of the White Paper on The Future of Higher Education (2003). Universities responded to the White Paper with different initiatives. The UK web pages we visited do not talk about ethical behaviour, personal qualities or personal growth. They primarily highlight the research calibre of academics, research ratings, research award high standards, technical support and geographical attractiveness of the campus. Once again we do not claim to have comprehensively examined all universities, but present a selection which is sufficient to support our general argument.

There are 'new route PhDs' at Exeter and Portsmouth, with a 'skills programme' at Exeter which includes workshops on presentation, interview and career management skills; taught courses at Loughborough and Portsmouth, and ethics or philosophy courses at the London Business School, Edinburgh and Warwick (for details of the website URLs see the table at the end of the reference list). That this is by no means universal is shown by the positions taken by Bristol and Nottingham Trent.

On the other hand, the University of Bristol exemplifies the content focused approach. Its mission is to continue to be research-led and to develop a number of strategic partnerships with other universities in the UK and overseas, carrying out research that is world-leading in terms of originality, significance and rigour. Similarly concentrating on content, Nottingham Trent University notes that the PhD is awarded solely on the basis of the thesis, with the criterion for the award being a significant contribution to knowledge. Nottingham Trent does draw attention to other benefits which the research degree candidate will acquire in the course of the degree, namely 'the de-

With the emphasis in the UK more firmly on subject-related knowledge and research methodology, perhaps a strong personal integrity is assumed, in the apparent belief that these are sufficient to allow graduates to fulfil their true potentials in life. Indeed at Cambridge, candidates for a degree are presented to the Vice Chancellor with the attestation that they are 'suitable as much by character as by learning to proceed to the degree'.

So, in some universities at least there is a commitment that graduates will go into the world having particular capabilities, and in some cases moral capacities. In the next section we link the interest in moral capacity and integrity to the ability to generate, maintain and deliver intellectual capital. In the third section of the paper we consider how universities can have a methodology for the practice of integrity in post-graduate education, and for its assessment in post-graduate students.

The concept of Intellectual Capital as a basis for the research degree

Three related ideas contribute to the concept of intellectual capital and its importance in society and the economy. The transition to the information age led to the acknowledgement of the importance of the knowledge worker (Reich, 1992), the gap between the value of a company measured on the stock market and that shown in its traditional accounting reports led to a recognition of the importance of intangibles in the resource theory of the firm (Barney, 1991 and elsewhere), and the acceptance of the balanced scorecard (Kaplan and Norton, 1992), stakeholder theory (Freeman, 1998) and the triple bottom line (Elkington, 1999) showed to many that business success did not lie in purely

financial or technical fields. In the knowledge economy the key competitive advantages (Drucker, 2000) are creativity, problem solving, the ability to transfer knowledge, trust in success and openness to new ideas.

Organisation whether firms, communities of practice, or nations, 'are becoming dominantly repositories and coordinators of intellect' (Quinn, 1992), and the extent of their repository and their ability to coordinate it is their intellectual capital. 'Intellectual capital thus represents a valuable resource and a capability for action based in knowledge and knowing' (Nahapiet and Ghoshal, 1998), Whilst there are many definitions of intellectual capital, in general for an enterprise its value is made up of financial capital and intellectual capital, while intellectual capital includes both human capital and structural capital. Human capital is made up of the 'values, attitudes and habits of the components of the organization' while structural capital consists of the organisation's systems and culture and its customers (Sánchez-Cañizares, Muñoz and López-Guzmán, 2007). Social capital, the 'networks of strong, crosscutting personal relationships developed over time that provide the basis for trust, cooperation, and collective action' has been shown to be important in the development of human capital, at both individual and community levels (Nahapiet and Ghoshal, 1998).

Trust, openness and creativity – important elements of intellectual capital – are social competencies that can only be developed through human interaction In academia, in business and in government, when team members work together there is a synergy, a special energy flow. This energy has two sources: it either comes from the interaction of the members or from the intellectual capital of the individuals (Laáb, 2007). The level and size of the synergy among team members is determined by the level of trust or distrust between the team members. The quality of the individual's synergy is determined by the individual's intellectual capital. An acknowledgement that intellectual capital is an important outcome of the research degree can be found in the statements of most if not all of the universities we have mentioned. This may be based on a narrow view, that intellectual capital is a fancy name for knowledge, and that the creation of knowledge is the ancient purpose of the university. It may find its source in the economic view that 'knowledge is our most powerful engine of production' (Marshall, 1965), and a concern for the generation of intellectual property (IP). For some the broader notion of intellectual capital incorporating knowledge, human and social capital is apparent.

Kopatsy's Model of Intellectual Capital

It this section we use Sandor Kopatsy's model of intellectual capital to show why moral education is essential to the development of intellectual capital, and to provide support for our view (and that of those institutions which have specifically included ethical elements in their graduate quality lists) that this is important, not only in research degrees, management and business schools, but in all education.

Sandor Kopatsy (www.Kopatsy.hu) is a Hungarian economist who has published several books and hundreds of journal articles on many aspects of economics including issues in agriculture, monetary policy, taxation, the role of SMEs, education and health care in the economy, although the majority of his work remains untranslated to English. He is perhaps best known in the West for his writings about the relationship of economic prosperity and social well being in society. In his 1999 conference paper A szellemi vagyon mindennél fontosabb (The Intellectual Capital is the most Important) he argues that intellectual capital cannot be treated and measured in the same way as tangible properties.

In Kopatsy's view social development, is the result of the harmony between society's needs and its intellectual capital. Taking a longer view than those who propose a recent movement to a knowledge economy, Kopatsy see this relationship in the growth of Western societies over the past 500 years. Intellectual capital, Kopatsy says, has four components: knowledge, morality, talent and effort. Given the nature of these components intellectual capital, whilst widely accepted as an important factor of political and economical life, cannot be treated by society in the same way as any other resource. Knowledge, morality, talent and effort cannot be purchased or acquired by someone else. They can only be employed or rented and used effectively when there is a common interest for the owner of the intellectual capital and the individual or organisation that employ it. (Knowledge here is taken to include knowing, or wisdom as well as what is often called tacit knowledge such as Newton's Laws, or the knowledge found in an engineer's handbook.)

Kopatsy claims that each of these components is equally important and when all four are present with a positive sign they can magnify and multiply each other. Thus

Intellectual Capital = Knowledge x Morality x Talent x Effort

If any of these components is missing the total intellectual capital will be zero. He claims that only the multiplication and not the sum of the components will show us the size of the Intellectual Capital. In accordance with the law of multiplication when one factor is zero the product will also be zero. In our case it means that when there is zero knowledge, zero talent or zero effort the Intellectual Capital is also zero. But it is also zero when there is zero moral intent.

Kopatsy explains the relevance of the four components in the following way:

a. Knowledge is only valuable for society when it appears with right morality. With wrong morality knowledge causes only harm to society. When there is no talent knowledge on its own is meaningless. Without effort one cannot achieve a lot even though there is knowledge, right morality and talent. So knowledge in itself is not a value. It is made valuable by the other three components of the equation.

b. Morality (Moral intent). Morality is considered to be valuable for society only when it comes with knowledge, talent and effort. Wrong intent causes damage to society. The higher the talent, the knowledge and the effort the bigger the damage when it is combined with bad moral intent.

c. Talent is only valuable when the owner of the talent is able to guide it by knowledge and combines it with good moral intent and effort. A society loses most when its talents are not developed properly and are not equipped with right morality and effort.

d. Effort has become the main virtue in modern society. Effort also includes ambition, initiative and enterprise. It is easy to accept that without effort for example it is not possible for the talent to show outstanding results.

Note that three of the four factors – knowledge, talent and effort – can only be positive as their starting point is zero. On the other hand morality can be negative as well as positive. Consequently intellectual capital can only be positive and add value to society when it is accompanied by good moral intent. On the other hand the more knowledgeable, the more talented and more diligent the individual with bad moral intent, the bigger the damage to society.

The nature of morality

Morality is the idea that some forms of behaviours are right, proper, and acceptable and that other forms of behaviours are bad or wrong, either in your own opinion or in the opinion of society (Hock, 1999; Collins, 2001). Our concern here is not with that narrow view of morality which equates it with sexual probity, but with a wider view, identifiable in society at least since the time of Socrates and Confucius, that morality is the essence of the well-lived human life.

An ethic of a particular kind is an idea or moral belief that influences the behaviour, attitudes, and philosophy of life in a group of people (Hock, 1999; Collins, 2001). The word ethic comes from the Greek 'ethos'. The verb 'etheo' means first of all to filter through, to examine something. The Greeks believed that one's destiny and journey in life can be discovered from human nature. The second meaning of the verb is to stretch toward something, to strive for something. The Greeks believed that humans were naturally moving towards the manifestation of the 'divine sketch' that the 'Gods dreamt of them' and willingly or unwillingly they had to fulfil. In this respect one behaves with morality when he gradually fulfils the 'divine dream' that was personally meant for him. Repeated activities lead to reasonably stable behaviours. This is why in certain Greek dictionaries 'ethos' means habit, manner, ettiquette and so on. These meanings approach ethics through external characteristics. Although this is one sided it can be argued that the external signals the internal qualities.

A contemporary parallel can be found in the concept of communities of practice (Wenger 2000) where there are internal ways of working which produce both outputs valuable in themselves to the the wider community and internal benefits in the growth of the community of practice, benefits which MacIntyre calls 'goods internal to practices' (MacIntyre, 1985).

The seventeenth century European philospher Baruch Spinoza argues that morality is the most important manifestation of human nature. He believes that some manifestations are in line with human nature while others are opposed to it. Spinoza gives joy a supreme place in his anthropological-ethical system. Joy, he says "is man's passage from a lesser to a greater perfection. Sorrow is man's passage from a greater to a less perfection" (cited in Fromm, 1997). In order not to decay, we must strive to approach the 'model of human nature', that is we must be optimally free, rational, active. We must become what we can be. This is to be understood as the good that is potientially inherent in our nature. Spinoza understands 'good' as "everything which we are certain of a means by which we may approach nearer and nearer to the model of human nature we have set before us"; he undestands 'evil' as "on the contrary ... everything which we are certain hinders us from reaching that model. Joy is good, sorrow, sadness, gloom is bad. Joy is virtue; sadness is sin. Joy, then is what we experience in the process of growing nearer to the goal of becoming ourself" (cited in Fromm, 1997).

The Hungarian poet Sándor Weöres explains perhaps even more clearly what it means to fulfil one's human nature and morality:

Virtue is all that is equal to the eternal measure and lifts you towards completeness; sin is all that opposes the eternal measure and distances you from completeness. One who has reached completeness becomes one with the eternal measure and has no virtue or sin any more. He becomes similar to the fire. The light is not the virtue of the fire but it is its nature. Similarly one who has achieved completeness has the eternal measure not as a virtue but as part of his nature. In completeness there is no good and bad, no merit and mistake, no reward and punishment (Weöres, 2000).

Intellectual capital can only be positive that is, value to society when it is accompanied by a moral disposition and a tendency to do good. How is it that morality can have a negative sign? If morality is the essence or fulfilment of human life then one who acts against that life can be considered to have negative morality. In addition one can argue that the reluctance to do good is immoral and has a negative sign. As Dante put it (in John F. Kennedy's 1963 translation) 'the hottest places in hell are reserved for those who in a period of moral crisis maintain their neutrality' (Kennedy, 1963).

Reluctance to do good is immoral because the individual is tempted to use his or her talent, effort and knowledge to harm, damage or destroy himself/herself or the people and nature around him or her. Someone with a bad morality is particularly dangerous to society when he/she is talented, knowledgable and puts effort into his/her negative behaviour.

Morality and integrity are essential elements of human functioning and a component of intellectual capital. Morality is the only component of intellectual capital which can be negative.

Developing and assessing personal integrity

This final section of the paper discusses ways in which integrity, commitment to ethical action, social responsibility and other such qualities, considered by at least some universities to be present in their research degree graduates, can be developed and assessed. As we have shown, intellectual capital cannot be developed without a positive moral orientation and hence an understanding of purpose.

Some of the changes in tertiary education have been intended to develop those elements of intellectual capital which lie outside the realm of discipline knowledge. However, research degrees, and university education more broadly, frequently fail to provide an environment for exploring the broader context of human life where one could test the emerging thoughts on ethical issues, paradoxes and dilemmas of every day life. Tertiary education in its current form, including the research degree, provides plenty of opportunities for the acquisition of tangible knowledge. There is no shortage of support for those who buy into the ideology that promotes financial and material success as a measurement of human worth and value. However, tertiary education in general falls seriously short of providing opportunities for soul searching and finding purpose in life.

Character formation, the development of virtues, seems to fall outside the remit of management education (Wall, Platts and Illes, 2007). This is perhaps a product of the mistaken view (Jackson, 1993) that character is formed in the family and throughout primary and secondary education and by the time one enters tertiary education profession-specific technical knowledge is all that is needed.

We are not alone in our questioning views. Various authors have called for a fundamental review of management education (see for instance Mintzberg, 1994). Some have argued that traditional educational approaches are deeply rooted in a mechanistic view of management evoking the illusion of control and predictability (Berends and Glunk, 2006), whereas daily experience in the workplace shows that events are not necessarily predictable or controllable (which is in accord with the principles of complexity theory (Mitleton-Kelly, 2003 and elsewhere). Even the deployment of increasingly sophisticated information and decision support systems cannot take away the need for human judgment in a social context.

Some management educators have therefore started to en-

gage in a more serious debate as to how to prepare individuals and organisations to make sound human judgments (as regards decision making?). Most of the textbooks treat the subject of management and management development in a highly detached way, focusing on a variety of sophisticated, often quantitative techniques to yield 'optimum' solutions and often prescriptive training programmes to further the attainment of technical competencies by position holders. (It is a management development in this mould, we argue, that is conjured up by the taught courses and additional skills mentioned in many of the higher degree program statements.) This approach suggests that the manager as a person is not of primary importance to managerial effectiveness. Practice, however, suggests the opposite, and as a significant proportion of research graduates enter commerce, industry or government this is relevant for research degree programs as well as for business school courses.

Success in managerial or leadership roles depends to a great extent on the level of maturity, growth, self-awareness and personal mastery (Covey, 1989; Platts, 2003) of the individual. Universities still need to come to terms with these facts, and redesign research degrees and other aspects of the curriculum in ways which provide opportunities for self-discovery, personal development, reflection, questioning, individual growth and projects which would allow the individual to look beyond herself. The opportunity to develop and confirm these qualities are particularly crucial in research degree programmes. Research degrees are highly regarded both in organisational and social contexts. Individuals with such degrees usually enjoy a special status in the community. Their behaviour is closely observed, imitated and used as examples particularly in connection with moral and ethical dilemmas. Their actions and daily behaviour can have an energizing, positive effect or a demoralising, negative effect on others.

Experience in early postgraduate manufacturing leaders program at the University of Cambridge, shows how a close cooperation between industry, students and academia has been successful in the development of integrity and personal morality (Platts, 1998). A recent review of all theses submitted by students in this program, which includes coursework, an industry project and a research thesis, show of that the workshop, led by Etsko Schuitema, author of the care and growth model of leadership (2000), was the most highly valued element of the course, and that this position was maintained over the more than ten years that the course has been run.

This shows perhaps that academia can provide a community in which postgraduate students can develop skills in reflection and moral integrity, goods internal to the practice of research and the professional life. Such a community would need to include a number of postgraduate students together with an established academic community of which they were made part. The Cambridge experience shows that it also requires active participation by supervisors in the reflective processes of the community and the support of an intensive workshop experience.

Assessment

If, ethics, integrity, equity and social responsibility are important qualities for academic and professional success, as those who have included them in the qualities which a graduate from a research degree will acquire would seem to suggest, and as many accounts of intellectual capital confirm, then how are they to be measured or assessed?

The moral elements among the qualities or skills in Table 1 take three distinct forms. Charles Darwin requires the demonstration of a technical skill, the ability to apply equity values. Western Australia and UTS describe graduates who are sensitive to ethical, cultural and social issues. UniSA talks of graduates 'committed to ethical action and social responsibility'. The first two of these can be assessed in the same way as many other skills and qualities, although it is probably the case that in research degrees there is no direct assessment and no link between achievement of the graduate qualities and whether or not the student is awarded the degree.

The assessment of cognitive and decision making skills will provide only a partial assessment of commitment to ethical action. Many professional courses – medicine and nursing, for instance – have well developed procedures including observed clinical practice for the assessment of these aspects of students about whom they have to make a judgement before graduation or the granting of a license to practice. This is seldom the case in the research degree. UniSA goes some way in requiring that the candidate submit a final report along with the thesis, describing how the graduate qualities have been developed during the candidacy, but there is no provision for a response to the report, and it is stated quite explicitly that it is not examined, and not sent to the examiners of the thesis.

For the systematic evaluation of what are in fact the core values of professional behaviour to be done well it will need to 'include many different assessors, more than one assessment method and assessment in different settings' (Lynch, Surdyk and Eiser, 2004). This is unlikely in the current research degree context in most Australian and UK universities, although the opportunity for assessment may be there in those institutions where there is a close and extensive personal relationship between supervisor and student. Even then, however, there is a hesitancy on the part of many academic staff to assess the ethical elements of a student's work (Moon, 1999), apart from formal instances of plagiarism. This may in part be due to recognition that the evaluation cannot adequately be done in a quantitative way (Harris, 2004). It may also be due to a discomfort which arises from the probably mistaken view that such a judgement necessarily requires the assessor to give preference to his or her own set of values (Harris, in press). Extensive discussion regarding teaching practice in religious foundations has shown that this fear is misplaced (Delbecq, 2005).

Conclusion

The nature of the research degree is changing in many institutions with new or increased emphasis on coursework, and for some the introduction of qualities or generic skills which graduates are to acquire during the candidacy. One driver of these changes has been the growing recognition of the importance of intellectual capital for both individual enterprises and society more generally. As Kopatsy and others show, this intellectual capital has an important moral component, and some universities have recognised this in the qualities they seek to instil in the course of a PhD. Further discussions and individual and institutional commitment is needed for this new phase of research degree development. On the one hand there is a growing need and demand for new knowledge creation through research degrees, on the other hand there is growing evidence of the harm that knowledge and talent can cause when it is not accompanied by right morality.

Universities need to find a way of actively providing opportunities and requirements in the curriculum for the development and confirmation of right morality and ethical behaviour. Setting out the formal links between these changed views of the research degree and intellectual capital, with its links to both the

knowledge economy and moral intent, will we hope assist those who view these new requirements with hesitancy to understand them more clearly.

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University of Exeter	http://www.exeter.ac.uk/postgraduate/pgstudy/research.shtml
Loughborough University	http://www.lboro.ac.uk/departments/bs/research/phdbrochure.pdf
London Business School	http://www.london.edu/programmes1189.html
University of Edinburgh	http://www.managementschool.ed.ac.uk/pg_study/research_degree/phd
Warwick Business School	http://www.wbs.ac.uk/students/doctoral/structure.cfm
University of Bristol	http://www.bristol.ac.uk/research/policy/strategy/version2.html
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Authors

Howard Harris. Howard Harris teaches international management ethics and values in the school of management at the University of South Australia in Adelaide, Australia. He obtained his PhD in applied ethics after a career in industry in the Pacific Islands and in Australia. His first degree was in chemical engineering. He has a particular interest in the application of the traditional virtues in contemporary management. He is convenor of the group for research in integrity and governance at the University of South Australia.

Contact Information:
Howard Harris, Ph.D., School of Management, City West campus, University of South Australia, GPO Box 2471, Adelaide, SA, Australia 5001. Telephone +61 8 8302 9309, howard.harris@unisa.edu.au

Katalin Illes. Katalin Illes is the Director, International Corporate and Social Responsibility, at the Centre for Strategic Studies, Ashcroft International Business School, Anglia Ruskin University, Cambridge UK. She is an experienced university lecturer of organisational behaviour, leadership and intercultural communication. She works with organisations and individuals to explore complex issues of change, peak performance, trust, creativity, competitive advantage and collaboration. Her research includes the study of trust, leadership and creativity in mono and multi-cultural groups and organisations.

Contact Information:
Dr Katalin Illes, Director, International Corporate & Social Responsibility, Ashcroft International Business School, Anglia Ruskin University, East Road, Cambridge, UK CB1 1PT Telephone +44 1223 363271, katalin.illes@anglia.ac.uk