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Incorporating Ethics and Social Responsibility in IS Education

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Abstract

This paper discusses the importance of ethics and social responsibility in information systems (IS) education. The many public scandals of corporate misconduct have increased the need for more emphasis to be placed on ethics and ethical issues in IS education. The authors describe how the inclusion of ethics and social responsibility in the IS curriculum enhances IS education and discuss the core issues to be addressed, including: professional conduct, privacy, intellectual property, cybercrime, impact on humans, freedom of speech, and “Green” computing issues. The authors also introduce the papers presented in this special issue and challenge IS educators to increase their emphasis on ethics and social responsibility in their classes.

Keywords: Ethics, ethical behavior, social responsibility

1. INTRODUCTION: ETHICS AND SOCIAL RESPONSIBILITY WITHIN INFORMATION SYSTEMS

The study of ethics is concerned with issues of morality, fairness and natural justice. In very basic terms, it is about “what is right?” and “what is wrong?”, though of course the answers to such quandaries are often not obvious or straightforward, can give rise to dilemmas and trade-offs, and are influenced by culturally-embedded behavioral

norms. Chaffey and White (2011, p. 572) define business ethics as “moral principles concerning acceptable and unacceptable behavior by corporations and individual business people”. Although awareness of the need for business ethics was emerging in the 1960s (Baumhart, 1961), it was not until the following two decades that it became an issue of major concern, mainly driven by public outcry against the absence of appropriate standards in political and corporate life (Vitell and Festervand, 1987). The related area of “social responsibility” is based upon the ideology that

individuals and organizations have a moral obligation to behave in a way that, at least, is not detrimental to society at large, i.e. passive responsibility. This responsibility could also be active, meaning that individuals and organizations engage in activities that are beneficial to society.

In the era of globalisation, the responsible stewardship and governance of business, government and society impacts the lives of everyone. Students discovering the ease of gathering vast amounts of information and the power of organizing and combining it with information systems (IS) may have no moral basis for interpreting how that information should be used (or conversely, protected). As the old sayings go, "information is power" and "power corrupts". It therefore becomes readily apparent that information systems, if misused, can lead to undesirable consequences. Laws that govern corporate responsibilities may be forgotten or set aside when information so easily crosses international borders. Information systems are now ubiquitous and pervasive, often delivering benefits such as mobile computing and location-based services, but also potentially or actually having detrimental impacts such as invasion of privacy or large-scale data compromise, thus presenting challenges and dilemmas as regards ethics and social responsibility equally as important as how these information systems function.

Unfortunately, history is rife with examples of organizations acting in morally questionable ways or in their own self-interest to the detriment of society, such as the recent financial scandals at Enron, WorldCom, Goldman Sachs, Anglo Irish Bank and Société Générale. Similarly irresponsible actions have occurred in the domain of information technology, such as the Sony BMG rootkit case in the US, the News of the World phone-hacking incident in the UK, and the Satyam scandal in India. On the other hand, organizations have leveraged information systems to act ethically and in socially responsible ways, such as using online communities to activate volunteering networks (e.g. sparked.com), using social media to raise funds for philanthropic causes (e.g. Fox Television's "Idol Gives Back" scheme), and using the Internet as a channel to advocate for international human rights (e.g. BBC World Service Trust).

In this introduction to the special issue, we focus on two main themes – how ethics and social responsibility enhances IS education, and how IS educators might go about teaching ethics and social responsibility as part of IS curriculum. We first investigate the advantages of including ethics and social responsibility in IS education. Next, we consider how ethics and social responsibility might be incorporated into the IS curriculum. Building on these two themes, we present a brief introduction to each of the articles in the special issue and describe how each contributes to our knowledge in one or both of these areas. We conclude with a challenge to IS educators to build on this knowledge in developing more extensive and more impactful curricula, in the hopes that future IS graduates will gain a solid foundation in ethics and social responsibility that will help them act appropriately when faced with the unforeseen circumstances sure to occur as the pace of information technology capability only increases.

2. HOW THE INCLUSION OF ETHICS AND SOCIAL RESPONSIBILITY ENHANCES IS EDUCATION

Laudon (1995) made the point that "despite the explosion in information technology (IT) in the last 20 years, scholars, students, and practitioners would be hard pressed to claim similar progress in ethical thinking about information technology ... There is an ethical vacuum in cyberspace". About that same time, Berners-Lee (1996) observed that the Internet was growing exponentially at an explosive rate, leading him to comment that "many ethical and social issues were being addressed by the kinds of protocol [designed by Web engineers], and so they should not consider those issues to be somebody else's problem". A decade and a half later, we have now reached a stage where the Internet pervades the everyday lives of citizens, reaching into homes where children play on games consoles and interact with social media Websites, into the workplace where our email and Web browsing activities are being logged and mined, into public services where citizens' private information is recorded within e-government and e-healthcare systems, and into the street where our consumer behavior and physical movements can be tracked by stealth. The rate of growth of the Internet shows no signs of abatement; on the contrary, new technological advances are emerging so quickly that legislators and regulatory bodies find themselves in a constant fire-fighting exercise in dealing with ethical issues of major public interest. It is therefore necessary and appropriate that in preparing our graduates to be responsible citizens and employees, we must encourage them to critically reflect upon the ethical and socially responsible dimensions of new and emerging technologies; current examples of which include cloud computing, data mining, ambient intelligence, nanotechnology and the Future Internet.

Although the notion of incorporating ethics into the information systems curriculum can be traced at least as far back as the ACM 1978 Curriculum, it is only in relatively recent years that there has been a growing appreciation of the need to afford the topic of ethics and social responsibility a prominent place within the information systems curriculum. This is now reflected by the inclusion of ethics within the curricula laid down by the Accreditation Board of Engineering and Technology (ABET), the Association to Advance Collegiate Schools of Business (AACSB), Association for Computing machinery (ACM) Body of Knowledge, IS2002 curriculum, Australian Computer Society and other professional bodies (Greening, 2004; Rogers, 2006). Thus we have seen a growing trend towards the inclusion of modules such as "Technology and Society", "Information Systems Ethics", and "Socially Responsible Computing" within the syllabii of undergraduate degrees, as well as a movement towards encouraging students to engage in community-based service learning initiatives.

It is imperative that Information Systems students gain a critical appreciation of social, political, technological, environmental and global issues as a fundamental learning outcome of their college education. Contemporary issues of importance include privacy and data protection, social inclusion and the digital divide, lifelong learning, equal opportunities, gender issues, sustainable computing and "green IT", globalisation, mobility, usability and

accessibility, social media, Internet propaganda and censorship, digital media rights and controls, public advocacy and activism, and information and communications technology (ICT) in developing countries.

Most college students in the modern age belong to the so-called “Millennial Generation”, a cohort of the population that has been raised on a steady diet of technology from an early age. These students have known no other world other than that in which the everyday use of mobile devices, social networking and digital media is an accepted behavioral norm. The convenience and ever-increasing functionality of portable ICT is empowering people in ways that were inconceivable just a decade ago and society is changing as a result, as dramatically exemplified by the “Arab Spring” popular uprising that spread across North Africa and the Middle East in 2011 (Carter, 2011). But with power comes responsibility. It is now possible to violate a person’s fundamental human rights with little more than the touch of a button. For example, in an instant, a photograph or video of a person can be disseminated, without their consent, for public viewing by millions of people in the Web-connected world. The Internet brings with it risks and dangers that did not previously exist, such as vulnerable young children being exposed to inappropriate material, the threat of sinister cybercriminals intruding from afar across a network, and the potential to cause mass civil disobedience. Recent incidents that have been widely reported in the popular media include the Wikileaks saga (Cutler, 2011), the exploits of international hacktivist group “Anonymous” (Flock, 2011), the Apple iPhone tracking controversy that was blamed on a “bug” (Hardawar, 2011), the Sony PlayStation Network break-in which compromised the personal details of over 75 million users (Moses, 2011), and the unlawful interception of private data from unsecured WiFi networks by Google’s StreetView vehicle fleet (Williams, 2011). Some of these incidents were apparently not deliberate, but questions must surely be raised about appropriate regulation and controls and the responsible “duty of care”.

In addition to the news headlines on ethical breaches in business, another sign that students entering today’s organizations will be working in a very complex ethical environment is that many corporations are now providing ethics training for their employees. Furthermore, many corporations are hiring for the newly created ethical officer position. The ethics officer’s duties can include everything from training employees to advising the CEO (ASAE, 2008; Swartz 2003). In 2004, at least 40 percent of the Fortune 500 and more than 50 percent of the Fortune 100 corporations had an ethics officer (Business Wire, 2004; Buss, 2004). Another visible indicator of the increased importance of ethics officers in organizations can be seen from the fact that two different professional associations for ethics and compliance managers have experienced substantial increases in their membership numbers (Clark, 2006; Business Wire, 2004).

3. TEACHING ETHICS AND SOCIAL RESPONSIBILITY AS PART OF THE IS CURRICULUM

Some information systems degrees have dedicated modules on ethics whereas others cover ethics and social responsibility not as a dedicated module but rather as part of a number of inter-related modules. Another alternative is to combine these two approaches, whereby students might cover basic theories of ethics (e.g. deontology, utilitarianism, consequentialism, hedonism, virtue ethics, pragmatic ethics) within a foundation module, and then within other modules, set aside time to discuss how those principles apply to different aspects of the IS curriculum (e.g. ethics in systems design, ethics in database management, ethics in electronic commerce, etc.). In recent years, an increasing number of newly published academic textbooks specifically addressing the topic of information systems ethics and social responsibility have appeared (e.g. Schultz, 2005; Reynolds, 2006; Tavani, 2010; Quinn, 2010).

While the range of topics covered in these books varies, a number of core issues are common to most. These include the following:

- Professional conduct and ethics within IT organizations: this relates to codes of ethical practice; rights, duties and obligations; professional standards; risk and security policies; IT malpractice; licencing and certification; moral responsibility and whistle-blowing; employees’ safety and rights; monitoring of employees; and appropriate behaviour in the workplace e.g. the notion of “fair use” of organizational resources for personal purposes.
- Privacy and civil liberties issues: this topic has never been far from public debate in recent years with talk of the emergence of a “surveillance society”. Within e-commerce, e-government, and e-health, an increasing amount of personal data is being stored about us. In return, we expect new and better services, but there also arises the prospect of identity theft, breaches of data protection, and what some people would regard as a violation of their civil liberties, particularly the “monitoring” capability of technology. For businesses, the motivation for capturing customer data is to use it in ways that enhance customer satisfaction or to entice customers to consume a particular product or service, but there is a legal and ethical obligation to ensure that customer data is kept secure. For governments and healthcare providers, there is an imperative to provide more efficient cost-saving services through the roll-out of e-government and e-health systems, but in so doing not to compromise individual privacy. Governments also need to balance the interests of national security versus individual citizen’s rights (e.g. the US Patriot Act 2001). Privacy is a basic human right, as explicitly recognised by Article 12 of the Universal Declaration on Human Rights 1948. Any application of ICT which potentially violates this right raises serious ethical concerns. New technologies such as data mining, biometrics, location-aware devices, bioinformatics and personal information being stored “in the cloud” all require IS managers to make ethical judgements.
- Intellectual property and digital media rights: The illegal copying and distribution of software, music, video and other forms of digital media is a major issue, particularly amongst students of the “Millennial

Generation”, some of whom might never have acquired digital media through legitimate means (Liebowitz, 2006). Amongst the legal and ethical issues at play here are digital rights management, copyright, trade secrets, patents and trademarks, reverse engineering, freeware and open source public licences, plagiarism, and ownership of user-generated on-line content.

- Cybercrime: This embraces all sorts of illegal and ethically questionable activities executed on or facilitated by the Internet, such as impersonation, financial theft, extortion, sabotage, interception, denial-of-service, espionage, fraud, pornography, human trafficking, piracy, hacking/cracking, dissemination of viruses/malware, unsolicited spam, cyberstalking, on-line defamation, and cyberterrorism.
- Social consequences and impact on humans of ICT: This includes such issues as the impact of offshoring and outsourcing decisions; impact of IT on standards of living and work-life balance; social inclusion and the “digital divide”, particularly in relation to marginalised societal groups such as the elderly, disabled, or impoverished; the transformation of human work; children’s rights in the information society; ICT and individual autonomy; gender issues and equality in ICT; and the role of ICT in healthcare provision.
- Freedom of speech: This relates to the rights protected by the US First Amendment and similar legislation in other countries. It includes issues such as the freedom of expression, on-line anonymity, on-line censorship and access to information on the Internet, on-line defamation and incitement to hatred, on-line obscenity, e-democracy, and on-line advocacy by watchdog groups (e.g. Electronic Frontier Foundation, Privacy International).
- “Sustainable computing”, also called “Green IT”: this relates to socially responsible practices in the use, management and development of information systems. Energy consumption is a major consideration here, both from an economical and an environmental viewpoint. The amount of digital information in the world is increasing tenfold every five years and it is estimated that by 2013 the amount of traffic flowing over the Internet annually will reach 667 exabytes (The Economist, 2010). This requires an increasing amount of storage in data centers, which by 2011 were forecast to use almost 3% of the total US electricity use (EPA, 2007), thereby contributing substantially to carbon emissions. The “greening of IT” refers to various ways in which the environmentally harmful aspects of IT usage and production can be mitigated, such as through the use of enhanced processors, more efficient and intelligent algorithms, “thin” virtual clients, and the minimization of e-waste. “Greening by IT” refers to ways in which technology can reduce the need for people to engage in unsustainable practices e.g. the use of teleworking and collaboration technologies to enable people to “skip the trip, not the meeting”.

- Service learning and civic engagement: This is an increasingly popular pedagogical approach which encourages students to voluntarily contribute their skills to their communities. As a result of such gestures of active citizenship there arises a mutually beneficial “win-win” situation: the student learns from the experience of working in a real-world setting to make a difference through their contribution, and the community partner gains from the skills that the student contributes. Through participating in service learning initiatives, IS students develop a greater awareness and appreciation of society and thereby become more ethically conscious and socially responsible. Extensive service learning networks, established for the purposes of facilitating the engagement of higher education institutions with community-based organisations, are now in place in many countries e.g. AUCEA in Australia, Campus Compact in the US, CampusEngage in Ireland, CACSL in Canada, and CLAYSS in Argentina.

4. ISSUE OVERVIEW

In this special issue of the Journal of Information Systems Education, we have a great selection of articles relating to ethics and social responsibility in Information Systems Education. The original Call for Papers solicited articles on a wide range of assessment topics. In total, we received some 15 papers. We used the standard blind peer review editorial process and the submissions were narrowed to the eight papers featured in this issue. Authors in this issue are from the United States, Australia, the United Kingdom, Finland, and Namibia.

The first set of papers deals with ethics and social responsibility in IS education. The issue starts with a paper titled “Information Ethics Education for a Multicultural World” by Kenneth R. Fleischmann, Russell W. Robbins, and William A. Wallace. Their paper describes an undergraduate and graduate information ethics courses that expands the range of learning of ethical theories beyond the traditional Western canon to include a wide spectrum of non-Western and feminist theories. Their course adopts a collaborative learning approach where students work together in small groups by playing different roles that make interdependent decisions. In this course, cases are delivered via an educational simulation. This makes the approach scalable and transferable to other institutions around the world. Next, Cynthia K. Riemenschneider, Lori N. K. Leonard, and Tracy S. Manly present a paper titled “Students’ Ethical Decision-Making in an Information Technology Context: A Theory of Planned Behavior Approach.” They apply a modified form of the Theory of Planned Behavior to assess influences on behavioral intention when IT is involved using attitude, subjective norm, perceived behavioral control, moral judgment, and perceived importance as dependent variables. The results indicate that attitude, subjective norm, moral judgment and perceived importance are significant in some of the scenarios, whereas perceived behavioral control is not significant in any scenarios.

In the third paper, titled “Integrating Healthcare Ethical Issues into IS Education”, Leigh W. Cellucci, Elizabeth J. Layman, Robert Campbell, and Xiaoming Zeng look at the professional ethical codes and common ground that healthcare and IS professions share, particularly with regard to ethical principles of beneficence, autonomy, fidelity, and justice. They discuss the notion of a mutual understanding of bioethics and present professional codes of ethics as an advance organizer. To emphasize their point, they offer an example that may be used in class to illustrate a specific IS healthcare ethical dilemma of electronic health records. The fourth paper in ethics and social responsibility in IS education is by Tulimevava Kaunapawa Mufeti, Jameson Mbale, and Nalina Suresh of the University of Namibia. Their paper, titled “The Effect of Distributing Electronic Notes to Students: Ethical Considerations Raised” looks at the ethical issues introduced by an electronic notes system that was to be used as a web-based method of distributing lecture notes to students. The paper presents ethical considerations that needed to be addressed when introducing technology-enhanced learning in the context of a developing country.

The second set of papers deals with teaching ethics and social responsibility. The first paper in this section, titled “Using Debates to Teach Information Ethics” by A. Graham Peace presents advice and suggestions to other faculty faced with using debates as a way to teach an IS ethics course. As part of the paper, he lists the major problems encountered with the debate format and the interventions used to alleviate these problems. Student feedback indicates that students enjoy the debate experience, and informal comparisons to previous course offerings with no use of debates provide anecdotal evidence that student learning is increased. “Teaching IS Ethics: Applying a Research Technique for Classroom Use” is the title of the sixth paper in this issue. Fred Niederman, Sallie Taylor, Geoffrey N. Dick, and Lesley Pek Wee Land present the application of a research technique pioneered by Donn Parker using a scenario approach and Likert scale values choices to IS ethical issues. The paper describes the class and some key findings from the research.

The seventh paper is titled “Teaching Ethical Reflexivity in Information Systems: How to Equip Students to Deal with Moral and Ethical Issues of Emerging Information and Communication Technologies” and is by Bernd Carsten Stahl. This paper develops a conceptual framework of moral and ethical issues that distinguishes between moral intuition, explicit morality, ethical theory and meta-ethical reflection. Stahl then discusses ethical issues that can be expected to arise from novel developments in information and communication technologies. The paper suggests that the task of IS education is to develop ethical reflexivity in students. Such reflexivity will be required to provide the conceptual complexity and intellectual openness that will be needed to react appropriately to novel challenges. The last paper dealing with teaching ethics and social responsibility is by Tero Vartiainen and Mikko Siponen is titled “The Effects of Teaching the Universality Thesis on Students’ Integrative Complexity of Thought.” The authors carried out an interpretive empirical study on the effects and implications of an education program based on three theories of

universality. Their results show that the change in integrative complexity varied significantly between the two groups, with the experimental group making significant progress compared to the control group. They provide five recommendations for IS ethics education as a result of the study.

The final paper joins the two themes (Ethics and social responsibility in IS education, and Teaching ethics and social responsibility) through a teaching case titled “Trade Secret Law and Information Systems: Can Your Students Keep a Secret?” by Lorrie Willey, Janet C. Ford, Barbara Jo White, and Danial L. Clapper. This paper first looks at intellectual property law on IS professionals and IS education. Trade secret law, methods used to secure trade secrets, and the role of IS in supporting and/or developing those methods is discussed. The paper then presents a teaching case that provides IS students with insights into trade secret law and acceptable, ethical conduct of IS professionals who protect trade secrets.

5. CONCLUSIONS - CHALLENGE TO IS EDUCATORS

Ethics and social responsibility are not new phenomena, but recent developments in IT exponentially advance their effects. For example, one could reasonably argue that individual privacy has never been more threatened. Likewise, the risk of manipulation of information, particularly of vulnerable populations, places serious obligations and responsibilities upon data controllers. Thus organizations face a double responsibility not merely to act, but to act ethically and in socially responsible ways.

Today’s university graduates will become tomorrow’s leaders, the people whom we will look to as ethical leaders to uphold corporate standards and develop systems that help others behave ethically (Woodward et al. 2007). However, it is questionable whether business school students are presently obtaining an adequate level of ethics training, thus leaving them ill-prepared for the needs of the modern workplace (Lawson, 2004; Tang and Chen, 2008). The ethical development of tomorrow’s business leaders should be an area of major concern for educators and corporate leaders. We therefore recommend that instruction in ethics should be a core component of the curriculum for all information systems and business students. The intention of this special issue is to go some way towards facilitating that recommendation by providing insights, ideas, and practical tips drawn from IS educators based in various countries around the world.

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