A Review of Ethical Theory in the 'Upper Echelons' of Information Systems Research

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A Review of Ethical Theory in the 'Upper Echelons' of Information Systems Research

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Abstract

Despite some notable and rare exceptions and after many years of relatively neglect (particularly in the 'upper echelons' of IS research), there appears to be some renewed interest in Information Systems Ethics (ISE). This paper reflects on the development of ISE by assessing the use and development of ethical theory in contemporary IS research with a specific focus on the 'leading' IS journals (according to the Association of Information Systems). The focus of this research is to evaluate if previous calls for more theoretically informed work are permeating the 'upper echelons' of IS research and if so, how (Walsham 1996; Smith and Hasnas 1999; Bell and Adam 2004). For the purposes of scope, this paper follows on from those previous studies and presents a detailed review of the leading IS publications between 2005to2007 inclusive. After several processes, a total of 32 papers are evaluated. This review highlights that whilst ethical topics are becoming increasingly popular in such influential media, most of the research continues to neglect considerations of ethical theory with preferences for a range of alternative approaches. Finally, this research focuses on some of the papers produced and considers how the use of ethical theory could contribute.

Keywords: *Information Systems Research, Information Systems Ethics and Ethical Theory*

Introduction

Information Systems Ethics (ISE) is an important economic, social, cultural and political topic. This research argues for the development of ISE for the similar reasons that are offered for IS (Davis 2000; Baskerville and Myers 2002; Paul 2007a; Paul 2007b) and because IS phenomena are not always well represented by general ethics, business ethics or the various branches of computer ethics. However, the development of ISE should also appreciate some important work in adjacent fields e.g. computer, information and internet ethics (Wiener 1948; Parker 1968; Weizenbaum 1976; Johnson 1985; Moor 1985; Floridi 1999; Tavani 2007), the rare but notable exceptions within the field of Information Systems (IS) (Walsham 1996; Banerjee, Cronan et al. 1998; Adam 2001; Introna 2002; Wagner and Newell 2004) and capitalise on the renewed interest being shown by the International Conference on Information Systems (ICIS) in 2008 and the European Conference on Information Systems (ECIS), 2008 and 2009. The development of ISE is also important given the relatively poor historic coverage of such work, especially in terms of the quantity of research and of considerations of philosophical ethical theory (Walsham 1996; Smith and Hasnas 1999; Bell and Adam 2004), which is somewhat surprising given the interest in other IS topics e.g. politics and power (Markus 1983; Knights and Murray 1994; Jasperson, Carte et al. 2002; Howcroft and Light 2006; Avgerou and McGrath 2007). Furthermore, the need to develop ISE is also important given the increasing economic, social and political significance of IS. In terms of developing ISE, there are various views on how to proceed. Some have long called for more considered reflections of philosophical ethics in IS (Walsham 1996) and others have argued for ethical theories based on 'less abstract' approaches (Smith and Hasnas 1999). In 2004, the response had been fairly disappointing (Bell and Adam 2004).

The focus of this research is to follow such studies and assess if more research is being devoted to ethical topics in IS research beyond the specialist media e.g. Ethics and Information Technology and conference e.g. ETHICOMP, and CEPE etc. This research will evaluate the quantity of work published in some of the 'upper echelon' IS journals and how such work is considered. This paper is structured as follows; first, in order to understand the broader context of the research questions a brief overview of what is meant by philosophical ethical theory and some of the main developments in computer, information and IS ethics are presented. Next, the paper presents two views in relation to ISE research (Walsham 1996) and (Smith and Hasnas 1999). This is then followed by a review of ISE work published in the 'upper echelon' IS journals (according to the Association of Information Systems) from January 2005 to October 2007 inclusive, in the following journals; Management Information Systems Quarterly, Information Systems Research, Management Science and the Journal of Management Information Systems is considered. Finally, the paper critically reflects on the nature of such research in light of the criteria adopted within this review.

Ethical Theory

It is beyond the scope and purpose of this paper to evaluate the full complexities of philosophical ethical theory. Many contemporary sources offer good overviews of the main ideas associated with ethical theory (Johnson 1985; Johnson and Nissenbaum 1995; Walsham 1996; Tavani 2007). However, for the purposes of clarifying this research, ethics relates to the study of morality and the use of such theories in judging issues of right and wrong (Gert 1998; Gert 1999; Tavani 2007). Some claim that there are three moral systems; religious, legal and philosophical ethics (Tavani 2007). Philosophical ethics is an informal system where sanctions are often socially orientated e.g. disapproval or ostracism (Tavani 2007). Within philosophical ethics there are a range of diverse and well established ethical theories. The most popular theories are; deontological (duty-based acts) (Ross 1930; Kant 1988), utilitarianism (consequential-based acts) (Bentham 1948), contract or rights-based acts (Hobbes 1972) and virtue (character-based acts) (MacIntyre 1985).

The Development of Ethical Theory in IS Research

Historically, some of the most interesting contributions toward an idea of ISE have been made by those working within adjacent academic fields and by a few notable exceptions from those within IS research. The shaping of ISE from the adjacent academic fields may be explained (to some extent) by the relative infancy of IS and of interests in other subjects. Such work includes; Wiener's texts on the likely impacts of computers on society (Wiener 1954), Maner's early work on privacy, crime, and dependency (Maner 1980), both Moor's and Johnson's work in relation to clarifying computer ethics (Johnson 1985; Moor 1985), Floridi's philosophical development of information ethics (Floridi 1999; Floridi and Sanders 2002) and Tavani's work in cyber ethics (Tavani 2007). Within IS, there have also been a few rare notable contributions; Walsham's use of philosophical ethics to reflect on the limitations of professional codes of conduct (Walsham 1996), Adam's contributions on gender issues (Adam 2001), Introna's work in respect of new media (Introna 2002) and some observations of the ethical nature of packaged software systems (Adam and Light 2004; Wagner and Newell 2004; Adam and Bull 2008). However, whilst many have made some useful contributions to the development of IS (Banville and Landry 1989; Baskerville and Myers 2002; Paul 2007a) and other (broadly similar) topics are much healthier (see comments made in respect of the literatures on politics and power earlier, it is somewhat surprising that previous 'calls to arms' (see earlier comments) have struggled to 'take-off'. So what has happened to ISE since?

In order to assess the condition of ISE, this research conducted an evaluation of ethically related work published in the 'upper echelon' IS journals (according to the Association of Information Systems) from January 2005 to October 2007 inclusive. These dates are

appropriate as they follow on from the work of other reviews. This research recognises the debates about journal quality and the nature of such media e.g. would such work be submitted to such publications etc. However, this research is ongoing and for the purposes of scope it begins by evaluating the following publications; Management Information Systems Quarterly (MISQ), Information Systems Research (ISR), Management Science (MS) and the Journal of Management Information Systems (JMIS). This review process used the search engine Business Source Premier / EBSCO in conjunction with some independent evaluation of the data to produce its results. The search began by seeking to find any work that was identified as covering ethics (this may or may not be a Key term). This resulted in finding just 5 papers (see table 1).

Table 1: All Papers That EBSCO Highlights As Covering The Term 'Ethics'

Paper	*Journal*	*IS Topic:*
Ethical Decision Making in Software Piracy: Initial Development and Test of a Four-Component Model, (Moores and Cha-Jan Chang 2006)	MISQ 30 (1) 167-180	Yes
Recipient Choice Can Address the Efficiency-Equity Trade-off in Kidney Transplantation: A Mechanism Design Model, (Su and Zenios 2006)	MS 52 (11) 1647-1660	No
Strategic Manipulation of Internet Opinion Forums: Implications for Consumers and Firms, (Dellacros 2006)	MS 52 (10) 1577-1593	Yes
Project Assignments When Budget Padding Taints Resource Allocation, (Arya and Mittendorf 2006)	MS 52 (9) 1345-1358	No
The Effect of Payoff Feedback and Information Pooling on Reasoning Errors: Evidence from Experimental Markets, (Budescu and Maciejovsky 2005)	MS 51 (12) 1829-1843	Yes

Table 1 highlights the neglect in IS of the word 'ethics' as a key term. However, this doesn't necessarily mean that ethical considerations are this scarce. In order to proceed further this review used more specific terms in the study of ethics and referred to the bodies of knowledge in ISE, computer, information and internet ethics in order to be guided on such topics. The ethical topics that appear to generate significant interest are; trust, privacy, piracy and moral hazard. However, whilst the primary focus is based on these four issues, many papers also cover issues such as; IS development, E-Commerce and outsourcing etc. Using these four key terms almost 50 papers appear to be retrieved, this again is slightly misleading as one paper may cover more than one topic (see table 2).

Table 2: The Number of Papers That EBSCO Highlights As Covering The Additional Terms; Trust, Privacy, Piracy and Moral Hazard

Journal	*Trust*	*Privacy*	*Piracy*	*Moral Hazard*
MISQ	7	3	1	1
MS	5	5	0	4
JMIS	7	3	1	0
ISR	6	3	1	2

After some necessary interpretation of the papers, they were reduced to 32 papers that were deemed to be appropriate to this research (see table 3). This research finds that some human intervention in the use of search engine technologies is necessary for the following reasons. There was some occasional retrieving of inaccurate data e.g. a search for ethics and MISQ also located a paper for the Journal of Computer Information Systems. There was some retrieving of the same paper for a range of topics due to the broad nature of some of the research coverage e.g. covered many themes. Finally, some papers found were not appropriate to the topic e.g. not always IS papers etc. The 32 papers in table 3 are evaluated against the following criteria; investigating if calls for more ISE work have materialised, if so,

what is the nature of the research produced and why and how it is theoretically treated, either support for the use of philosophical ethics (Walsham 1996) or alternative ethical theories (Smith and Hasnas 1999).

Two Theoretical Approaches in ISE

Walsham's Approach (The Relevance of Philosophical Ethics): in 'Ethical Theory, Codes of Ethics and IS Practice', Information Systems Journal, (1996) 6 (1) pp.69-81.

Walsham highlights that whilst IS literature sometimes considered ethical issues, there is little in the way of grounding such work within general ethical theory. In addition, he questioned the '*objectives and value*' of such work. Walsham went on to provide a concise outline of the main theories from normative ethics which he used to re-evaluate the ACM *'Code of Ethics and Professional Conduct'* of 1992. Whilst Walsham acknowledged the difficulties in creating such codes of ethics, he welcomed such work as helping to guide practitioners and considered much of it to be '*thoughtful and useful'*. However, his research seeks to demonstrate how the use of ethical theory could have produced a more '*informed and thoughtful reflection and debate*'. This is highlighted by examples of some limitations within the Code; unresolved conflicts between duties and goals, problems in what constitutes good (virtuous) IS practice, and little focus in relation to the rights of groups. Walsham concludes by reiterating the value of ethical theory and the role that IS academics can play in making such theories more accessible and explicit in their work. He also highlights that the work of ISE is not restricted to IS but also has important implications for '*society at large'*.

Smith and Hasnas's Approach: in 'Ethics and Information Systems, Management Information Systems Quarterly, (1999), 23 (1) pp.109-127.

Smith and Hasnas's also called for more work in ISE and highlighted various problems in such research e.g. the different trajectories of IS and ethical development. They also discuss the problems of such an IS ethical vacuum. However, they seek to focus on the role of IS/IT in business. One of the main claims within the paper is that IS are not an ethically neutral entity, this is supported with an interesting case study of Blockbusters selling customer data to direct marketing companies, described as a well intentioned strategic initiative but conceived in ethical ignorance which resulted in several unforeseen negative responses. In addition, they also call for a more philosophical approach in ISE. However, unlike Walsham, they are somewhat wary of the applicability of philosophical ethics to IS practitioners. Ethical theories are perceived to be '*too abstract'*, not easily accessible to people from a business, engineering, computer science or IS background;

"Unfortunately, the doctrines of philosophical ethics are highly abstract and are essentially meaningless to one with little or no philosophical training"

- Hasnas and Smith (1999), p. 112

They seem to remedy this problem by diverting away from philosophical ethics for a more 'accessible' form of ethics e.g. theories of business ethics; stockholder, stakeholder and social contract theory. Although it also acknowledged that such theories are barely used in IS, despite their more accessible / practitioner nature. In summary, despite the recognition of the importance of ISE, we have two fairly similar views on how to proceed, for grounding or considering more research within ethical theory. In the next section, the paper examines the response within the 'upper echelons' of contemporary IS research to such previous and high profile calls.

Approaches in ISE: The 'Upper Echelon' Journals (2005-2007)

It is beyond the scope of this work to critically evaluate the detailed content of all papers retrieved. However, it is desirable to discuss many of the general themes that emerged. Table

3 outlines the papers studied including the titles (sometimes abbreviated), topics and journal references. In addition, the table outlines the three main evaluation criteria;

- Is ethics or morality acknowledged as a key term (y) or not (n) (column p1)
- Are the terms trust, privacy, piracy and moral hazard acknowledged as a key term (y) or not (n) (column p2)
- Are ethical issues considered by ethical theory (y) or another theoretical concept (n) (column p3)

Table 3 Revised: Papers Covering IS and Ethical Issues

ID	*Paper*	*Topic*	*Journal*	*p1*	*p2*	*p3*
1	The Value of Privacy Assurance, (Hui, Tao et al. 2006)	Privacy	MISQ 31 (1) 19-33	N	Y	N
2	Understanding and Mitigating Uncertainty in Online Exchange Relationships: (Pavlou, Huigang et al. 2007)	Trust Privacy	MISQ 31 (1) 105-136	N	Y	N
3	E-Commerce Product Recommendation Agents: Use, Characteristics, and Impact, (Bo and Benbasat 2007)	Trust	MISQ 31 (1) 137-209	N	Y	N
4	The Effects of Personalization and Familiarity on Trust and Adoption of Recommendation Agents, (Komiak and Benbasat 2006)	Trust	MISQ 30 (4) 941-960	N	Y	N
5	The Impact of Ideology of Effectiveness in Open Source Software Development Teams, (Stewart and Gosain 2006)	Trust	MISQ 30 (2) 291-314	N	Y	N
6	Ethical Decision Making in Software Piracy, (Moores and Cha-Jan Chang 2006)	Piracy	MISQ 30 (1) 167-180	Y	Y	Y
7	The Personalization Privacy Paradox, (Awad and Krishnan 2006)	Privacy	MISQ 30 (1) 13-28	N	Y	N
8	Intellectual Property Rights and Cannibalization in IT Outsourcing Contracts, (Walden 2005)	Piracy	MISQ 29 (4) 699-720	N	Y	N
9	Perceived Information Quality in Data Exchanges, (Nicolaou and McKnight 2006)	Trust	ISR 17 (4) 332-351	N	Y	N
10	The Nature and Role of Feedback Text Comments in Online Marketplaces, (Pavlou and Dimoka 2006)	Trust	ISR 17 (4) 392-414	N	Y	N
11	The Effects of Trust-Assuring Arguments on Consumer Trust in Internet Stores, (Kim and Benbasat 2006)	Trust	ISR 17 (3) 286-300	N	Y	N
12	How Often Should Reputation Mechanisms Update a Trader's Reputation Profile, (Dellarocas 2006)	Trust Moral Hazard	ISR 17 (3) 271-285	N	N	N
13	Privacy Protection in Data Mining: A Perturbation Approach for Categorical Data, (Li and Sarkar 2006)	Privacy	ISR 17 (3) 254-270	N	Y	N
14	An Extended Privacy Calculus Model for E-Commerce Transactions, (Dinev and Hart 2006)	Privacy Trust	ISR 17 (1) 61-80	N	Y	N
15	Psychological Contract Violation in Online Marketplaces, (Pavlou and Gefen 2005)	Trust	ISR 16 (4) 372-399	N	Y	N
16	Managing Piracy: Pricing and Sampling Strategies for Digital Experience Goods, (Chellappa and Shivendu 2005)	Piracy	ISR 16 (4) 400-417	N	Y	N
17	Maximizing Accuracy of Shared Databases when Concealing Sensitive Patterns, (Menon, Sarkar et al. 2005)	Privacy	ISR 16 (3) 256-270	N	Y	N
18	Reputation Mechanism Design in Online Trading Environments with Pure Moral Hazard, (Dellarocas 2005)	Trust Moral Hazard	ISR 16 (2) 209-230	N	Y	N

19	The Effect of Digital Sharing Technologies on Music Markets: A Survival Analysis of Albums on Ranking Charts, (Bhattacherjee, Gopal et al. 2007)	Piracy	MS 53 (9) 1359-1374	N	Y	N
20	Minimizing Information Loss and Preserving Privacy, (Menon and Sarkar 2007)	Privacy	MS 53 (1) 101-116	N	N	N
21	Design of Robust B2B E-Marketplaces with Guaranteed Privacy, (Kalvenes and Basu 2006)	Privacy	MS 52 (11) 1721-1736	N	N	N
22	Strategic Manipulation of Internet Opinion Forums, (Dellarocas 2006)	Trust	MS 52 (10) 1577-1593	N	Y	N
23	The Effect of Payoff Feedback and Information Pooling on Reasoning Errors, (Budescu and Maciejovsky 2005)	Trust	MS 51 (12) 1829-1843	N	Y	N
24	Overcoming Online Information Privacy Concerns, (Il-Horn, Kai-Lung et al. 2007)	Privacy	JMIS 24 (2) 13-42	N	Y	N
25	Recommendation Agents for E-Commerce, (Weiquan and Benbasat 2007)	Trust	JMIS 23 (4) 217-246	N	Y	N
26	Interoperability of E-Government IS, (Otjacques, Hitzelberger et al. 2007)	Privacy	JMIS 23 (4) 29-51	N	Y	N
27	Do I Trust You Online, and If So, Will I Buy?, (Lim, Sia et al. 2006)	Trust	JMIS 23 (2) 233-266	N	Y	N
28	How Hypertext Links Influence Consumer Perceptions to Build and Degrade Trust Online, (Stewart 2006)	Trust	JMIS 23 (1) 183-210	N	Y	N
29	Consumer Search and Retailer Strategies in the Presence of Online Music Sharing (Bhattacharjee, Gopal et al. 2006)	Piracy	JMIS 23 (1) 129-159	N	Y	N
30	How Presentation Flaws Affect Perceived Site Quality, Trust, and Intention to Purchase from an Online Store, (Everard and Galletta 2005)	Trust	JMIS 22 (3) 55-96	N	Y	N
31	Effects of Relational Factors and Channel Climate on EDI Usage in the Customer-Supplier Relationship, (Jai-Yeol, Narasimhan et al. 2005)	Trust	JMIS 22 (1) 321-353	N	N	N
32	Design, Implementation, and Evaluation of Trust-Supporting Components in Virtual Communities for Patients, (Leimeister, Ebner et al. 2005)	Trust	JMIS 21 (4) 101-136	N	Y	N

The general findings arising from table 3 in this study are as follows. Whilst there is only one paper that explicitly uses the term ethics (P6), it is clear that many papers (28 out of 32) do explicitly use terms that are popular in ethical research such as; trust, privacy, piracy and moral hazard. It is also clear that whilst it may not always be recognised, that more ethically related work is of interest to IS scholars and is permeating the 'upper echelon' journals. Also such research is covering a broad range of diverse topics. However, whilst there may be some significant interest, no papers use ethical theories to consider such emerging IS phenomenon. Subsequently, none will make a philosophical contribution that can challenge any of the established theories used, again somewhat distant from developments in information ethics (Floridi 1999; Floridi and Sanders 2002). Disappointingly, almost all of the authors are moving even beyond Smith and Hasnas's diversion of philosophical ethics approach (Smith and Hasnas 1999) and by-passing ethical theories completely. This review also unearthed some other findings that also appear to drift beyond previous calls. The majority of the papers prefer to focus on micro-level research, rather than considering many of the broader social issues and there were also some interesting methodological choices and rationale.

In specific terms, in respect of meeting all of the criteria specified in table 3, only one piece of IS research could be said to have succeeded (P6), although there are some theoretical disparities with this work. Paper 18, listed *'moral hazard'* as a key term, proceeded to highlight a number of potential ethical issues within online reputation mechanisms, but then

decided to by-pass grounding the work within an established ethical framework. Paper 19, briefly acknowledged the specific ethical and legal implications of its topic, for instance, industry attempts at controlling the illegal downloading of music through peer-to-peer technologies however the work then proceeded to analyse this topic from a market-based perspective.

In terms of the analysis of topics, the issues of trust and privacy are of the most interest. This is perhaps due to the nature of IS developments on the significance of E-Commerce. The issue of piracy is perhaps the most ethically orientated, although the philosophical and empirical ethical issues are relatively neglected. Whilst paper 6, met all of the criteria, there are several other interesting observations, some acknowledged by the authors themselves (Moores and Cha-Jan Chang 2006). Moores and Chang acknowledge some problems with the scope of their research e.g. the testing of an established model within a specific practitioner related context. Thus, the work finds that software piracy is a major economic concern (for those who own such intellectual property), that certain individuals in certain contexts do recognise that pirating is an act of infringing intellectual property and that individuals often don't judge such acts to be too morally wrong to refrain from such acts. In addition, there are some other interesting observations in relation to the choice of research methods e.g. the use of student sampling within a specific geographical and cultural context. Such methods are somewhat problematic especially in terms of generalisation e.g. society at large. Despite the inevitable problems of representation, student sampling methods were a surprising popular practice in many of other papers (P1, 4, 27, 28 and 30). Some of the problems are somewhat acknowledged in paper 6, but the method is still justified on the basis that students are a *'prominent source of piracy'?* The problems of student sampling are less acknowledged elsewhere (P4, and 27).

Another paper (P19) also specifically acknowledges the ethical dimension arising from the development of digital technologies (peer-to-peer) and the desire by the music industry to prevent illegal sharing. However, whilst this is appreciated, the authors seek alternative approaches to improve our understanding. A similar approach is used in paper 16, where the authors argue that piracy in digitally experienced goods can be positively moderated through the use of realistic marketing and increased sampling and neglect to understand the phenomenon from an ethical perspective. Furthermore, ethics is relegated further and the issues are explored within a marketing strategy solution, a theme that is also developed in other work (P1, 4, 21, 27, and 30).

The research on privacy, moral hazard and trust are also based on micro-level issues and again neglect the use of ethical theory. In terms of privacy, paper 1 and 21 address a professional audience. The papers relating to trust are diversely grounded; e.g. papers 4, 27 and 30 are in reasoned action theory and marketing, paper 10, in psychological contract violation and papers 27, 28, 30 and 32 in trust building theory or marketing. Another interesting piece of research (based on the evaluation criteria for this research) is on trust. Paper 18 (Dellarocas 2005) also uses the term moral hazard as a Key term and the paper sometimes refers to its ethical dimension. The research examines the construction of online reputation mechanisms which deal with seller reputation based on customer feedback. The research is based mostly on the website eBay but also through comparisons to others e.g. Amazon. The paper highlights some broader economic and moral issues of reputation in online environments and explores how effective such reputation mechanisms are designed and managed (or not). The research offers some interesting insights into some of the various flaws within such mechanisms, with some detailed explanations as to why such flaws could be significant. Again like some of the IS research on piracy, this research is developed within a specific context but it attempts to consider several broader social implications.

Finally, this review also highlighted some other generic issues, which may be explained by the popularity of certain authors, some of whom have been very prolific, and their favoured

approaches. In addition to the popularity of student sampling, there was an overwhelming tendency to use quantitative or semi-quantitative methods rather than qualitative methods, including papers 1,4,6,8,16,18,19 and 30, on-line or other survey data was also popular e.g. papers 1, 10, 18, 28 and 32, with noticeable contrasts in terms of the levels of participation and response e.g. papers 1, 10 and 32.

The Use of Ethical Theory in This IS Research

The previous section of this paper largely evaluated the published articles against some fairly interesting but specific criteria. Also the work is evaluated within the authors chosen frameworks. This research now seeks to make a modest contribution by seeking to reflect on how some of the various papers could be with the use of a more explicit ethical theoretical position. Again for the purposes of scope it is impossible to reflect on all of the papers listed, thus what follows is an analysis of the most popular topics covered e.g. piracy and trust. Also the research can only restrict the reflection to a few ethical theories, these being that of deontology (duty-based) and utilitarian (consequentially-based) considerations.

In general, in terms of the issue of piracy (papers 6, 8, 16 and 19), the use of a deontological framework could help to explore why individuals feel that they have a duty not to pirate digital goods. Also do individuals perceive that they have conflicts of interest when conducting such acts and which duties do they subscribe too and why? In terms of utilitarian issues, questions could focus on the individual consequences and if people are concerned about conducting often illegal acts, and if not, why? In terms of the digital music piracy issues covered in paper 19, the authors seem to accept that file sharing is almost inevitable and that many individuals seem to share their files regardless of the multifarious risks involved? Even if such a scenario appeared to be true for many individuals, then such issues may represent such a change in human morality and moral reasoning to question the validity of using such established theories relating to duty and consequence-based ethics, particularly if such ideas are relevant in guiding us in understanding contemporary phenomenon? This methodological position appears to be somewhat similar to the analysis of the technical problems of piracy discussed in paper 16. Thus the approaches prescribed by the authors to the problems of piracy e.g. better marketing and sampling of goods, don't seem to resolve the root-cause moral issues involved in why people pirate goods and again seems to except such actions as an inevitable feature of contemporary life.

Perhaps the most potentially fruitful paper for a more explicit consideration of ethical theory is Paper 18 on the issue of trust with its focus on reputation mechanisms at e-Bay (and Amazon). Whilst this paper raises several interesting issues and insights into the power of reputation mechanisms in online environments, the work also raises several alternative questions. Some of the neglected questions of interest could be the following. What does such research say about the duties of governance in regulating such new forms of commercial organisations? What accountability issues are raised for online operators in such moral hazard problems? Should online operators devote more resources to predict or manage the moral hazard problems more effectively? Finally, what are the moral, social and legal responsibilities or implications arising from the mass publication of potentially erroneous information within an online reputation mechanism?

Strengths and Weaknesses of this Research Paper

The objective of this research is to make a modest contribution to considerations of the condition of ISE. Some of the weaknesses in this research are as follows. Firstly, the findings are only based on four leading IS journals further research will review other leading journals. Also, although the AIS list was chosen to select the 'upper echelon' journals, there are many disagreements about the worth of such ranking systems. Secondly, those engaged in ISE research may actually prefer to target other well respected journals for a variety of reasons e.g. such media may be considered to be more accommodating to such research, although our

research highlights that ethically related topics are now permeating the mainstream, 'upper echelon' media. Thirdly, selecting papers that conform to a notion of ISE is also a subjective activity. Others (including the authors of the selected papers themselves) may disagree with the papers identified. Fourthly, because the papers on ISE were purposefully selected, such heightened scrutiny may misleadingly distort the actual strengths or weaknesses of such work. Finally, it is worth remembering that the chosen papers are being judged primarily against a specific set of criteria used for this research and only occasionally against the objectives they sought to develop. It is not the intention to criticise such work but to focus on how a different theoretical treatment may also be considered.

In terms of the strengths of this research, the review does offer a relatively rare contemporary insight into the condition of ISE, particularly in some of the 'upper echelon' media. Given the broader significance of IS, it is important to reflect on the condition of ISE research. Although the focus on such journals presents some problems in terms of representation, this specific focus is useful because such work (rightly or wrongly) is likely to be influential to others in IS and other academic fields. Furthermore, the findings from this study challenge those who believe that the appropriate home for ISE research is within specialist media and not necessarily within the 'upper echelon' IS media. Such media are increasingly sympathetic to ethical topics, even if this research supports many of the earlier findings (Walsham 1996) (Smith and Hasnas 1999) (Bell and Adam 2004) that authors continue to find an interest in such topics but choose to by-pass interpreting them within a more explicit ethical theoretical framework. Finally, this research also highlights some of the problems associated in conducting such research and some of the problems of an over-reliance on search engine technologies. It also sought to focus beyond reviewing just key term and abstract submissions to also offer some detailed considerations of full paper research submissions. Finally, one of the main strengths of this research is to go beyond highlighting what exists but also try to show what could be? This is demonstrated by the reflections on how such empirical data may be informed (or not) by a reformulation within ethical theory for some of the publications scrutinised.

Conclusion

This research has sought to respond to previous calls for a more informed development of ISE research, particularly in relation to considerations of ethical theory in empirical work. Historically, ISE research has been somewhat neglected from mainstream or 'upper echelon' media, which is surprising given the support and relative popularity for topics such as; power and politics etc. The historic development of ISE has been influenced by some rare but notable exceptions within IS and by academic work in adjacent fields. Those within IS tend to target their work in either specialist or more sympathetic media.

This contemporary review (2005-2007) of work published in the 'upper echelon' IS media highlights that it is something of a myth to believe that such media are inappropriate vehicles for ethically related work. Many 'leading' IS journals (and conferences) are increasingly valuing the importance of conducting more ISE related research, perhaps due to the presence of a range of digital technologies that appear to raise an array of interesting ethical challenges. However, whilst such developments are welcome, there appears to be some significant problems in indentifying or appreciating the ethical potential of such research and thus a failure to respond to previous calls to ground such work within ethical theories either in terms of Walsham's call for more philosophical considerations or Smith and Hasnas's call to use less 'abstract' ethical theories. This research also suggests how the use of such neglected ethical theories may illuminate existing empirical research. Finally, this research is an ongoing and will seek to build further on these initial findings.

References

Adam, A. E. (2001). "Computer Ethics in a Different Voice." Information and Organization **11**(4): 235-261.

Adam, A. E. and C. M. Bull (2008). Exploring MacIntyre's Virtue Ethics in Relation to Information Systems Proceedings of the 16th European Conference on Information Systems (ECIS), Galway, Ireland.

Adam, A. E. and B. Light (2004). Selling Packaged Software: An Ethical Analysis. Proceedings of the European Conference on Information Systems Turku, Finland.

Avgerou, C. and K. McGrath (2007). "Power, Rationality and the Art of Living through Socio-Technical Change." MIS Quarterly **31**(2): 295-315.

Awad, N. F. and M. S. Krishnan (2006). "The Personalization Privacy Paradox: An Empirical Evaluation of Information Transparency and the Willingness to be Profiled Online for Personalization." MIS Quarterly **30**(1): 13-28.

Banerjee, D., T. P. Cronan, et al. (1998). "Modeling IT Ethics: A Study in Situational Ethics." Management Information Systems Quarterly **22**(1): 31-60.

Banville, C. and M. Landry (1989). "Can the Field of MIS be Disciplined?" Communications of the ACM **32**(1): 48-60.

Baskerville, R. L. and M. Myers, D. (2002). "Information Systems as a Reference Discipline." Management Information Systems Quarterly **26**(1): 1-14.

Bell, F. and A. E. Adam (2004). Whatever Happened to Information Systems Ethics? Caught Between the Devil and the Deep Blue Sea. Proceedings of the International Federation of Information Processing (Working Group 8.2) Conference. Manchester, UK.

Bentham, J. (1948). An Introduction to the Principles of Morals and Legislation (with an introduction by Laurence J. Lafleur), , Hafner, Darien Conn.

Bhattacharjee, S., R. D. Gopal, et al. (2006). "Consumer Search and Retailer Strategies in the Presence of Online Music Sharing." Journal of Management Information Systems **23**(1): 129-159.

Bhattacherjee, S., R. D. Gopal, et al. (2007). "The Effects of Digital Sharing Technologies on Music Markets: A Survival Analysis of Albums on Ranking Charts." Management Science **53**(9): 1359-1374.

Bo, X. and I. Benbasat (2007). "E-Commerce Product Recommendation Agents: Use, Characteristics, and Impact." MIS Quarterly **31**(1): 137-209.

Budescu, D. V. and B. Maciejovsky (2005). "The Effect of Payoff Feedback and Information Pooling on Reasoning Errors: Evidence from Experimental Markets." Management Science **51**(12): 1829-1843.

Chellappa, R. K. and S. Shivendu (2005). "Managing Piracy: Pricing and Sampling Strategies for Digital Experience Goods in Vertically Segmented Markets." Information Systems Research **16**(4): 400-417.

Davis, G. (2000). Information Systems Conceptual Foundations: Looking Backward and Forward. in Organizational and Social Perspectives on Information Technology R. L. Baskerville, J. Stage and J. DeGross**:** 61-82.

Dellarocas, C. (2005). "Reputation Mechanism Design in Online Trading Environments with Pure Moral Hazard." Information Systems Research **16**(2): 209-230.

Dellarocas, C. (2006). "How Often Should Reputation Mechanisms Update a Trader's Reputation Profile?" Information Systems Research **17**(3): 271-285.

Dellarocas, C. (2006). "Strategic Manipulation of Internet Opinion Forums: Implications for Consumers and Firms." Management Science **52**(10): 1577-1593.

Dinev, T. and P. Hart (2006). "An Extended Privacy Calculus Model for E-Commerce Transactions." Information Systems Research **17**(1): 61-80.

Everard, A. and D. F. Galletta (2005). "How Presentation Flaws Affect Perceived Site Quality, Trust, and Intention to Purchase from an Online Store " Journal of Management Information Systems **22**(3): 55-95.

Floridi, L. (1999). "Information Ethics: On the Philosophical Foundation of Computer Ethics." Ethics and Information Technology **1**(1): 37-56.

Floridi, L. and J. W. Sanders (2002). "Mapping the Foundationalist Debate in Computer Ethics." Ethics and Information Technology **4**(1): 1-9.

Gert, B. (1998). Morality: Its Nature and Justification, Oxford University Press, New York.

Gert, B. (1999). "Common Morality and Computing." Ethics and Information Technology **1**(1): 57-64.

Hobbes, T. (1972). Leviathan (edited by Plamenatz, J.) Fontana Classics, London.

Howcroft, D. and B. Light (2006). "Reflections on Issues of Power in Packaged Software Selection." Information Systems Journal **16**(3): 215-235.

Hui, K. L., H. H. Tao, et al. (2006). "The Value of Privacy Assurance: An Exploratory Field Experiment." Management Information Systems Quarterly **31**(1): 19-33.

Il-Horn, H., H. Kai-Lung, et al. (2007). "Overcoming Online Information Privacy Concerns: An Information-Processing Theory Approach." Journal of Management Information Systems **24**(2): 13-42.

Introna, L. D. (2002). "On the (Im) Possibility of Ethics in a Mediated World." Information and Organization **12**(2): 71-84.

Jai-Yeol, S., S. Narasimhan, et al. (2005). "Effects of Relational Factors and Channel Climate on EDI Usage in the Customer-Supplier Relationship." Journal of Management Information Systems **22**(1): 321-353.

Jasperson, J., T. A. Carte, et al. (2002). "Power and Information Technology Research: A Metatriangulation Review." MIS Quarterly **26**(4): 397-459.

Johnson, D. G. (1985). Computer Ethics, Prentice Hall NJ.

Johnson, D. G. and H. Nissenbaum (1995). Computers, Ethics and Social Values, Prentice-Hall, NJ.

Kalvenes, J. and A. Basu (2006). "Design of Robust Business-to-Business Electronic Marketplaces with Guaranteed Privacy." Management Science **52**(11): 1721-1736.

Kant, I. (1988). Fundamental Principles of the Metaphysic of Morals (translated by T.K.Abbott), Prometheus Books, New York.

Kim, D. and I. Benbasat (2006). "The Effects of Trust-Assuring Arguments on Consumer Trust in Internet Stores: Application of Toulmin's Model of Argumentation." Information Systems Research **17**(3): 286-300.

Knights, D. and F. Murray (1994). Managers Divided: Organisation Politics and IT Management, John Wiley and Sons, Chichester.

Komiak, S. Y. K. and I. Benbasat (2006). "The Effects of Personalization and Familiarity on Trust and Adoption of Recommendation Agents." MIS Quarterly **30**(4): 941-960.

Leimeister, J. M., W. Ebner, et al. (2005). "Design, Implementation, and Evaluation of Trust-Supporting Components in Virtual Communities for Patients." Journal of Management Information Systems **21**(4): 101-135.

Li, X. B. and S. Sarkar (2006). "Privacy Protection in Data Mining: A Perturbation Approach for Categorical Data." Information Systems Research **17**(3): 254-270.

Lim, K. H., C. L. Sia, et al. (2006). "Do I Trust You Online, and If So, Will I Buy? An Empirical Study of Two Trust-Building Strategies." Journal of Management Information Systems **23**(2): 233-266.

MacIntyre, A. (1985). After Virtue: A Study in Moral Theory (2/e), Duckworth, London.

Maner, W. (1980). Starter Kit in Computer Ethics, Helvetia Press and the National Information and Resource Centre for Teaching Philosophy, New York.

Markus, M. L. (1983). "Power, Politics, and MIS Implementation." Communications of the ACM **26**(6): 430-444.

Menon, S. and S. Sarkar (2007). "Minimizing Information Loss and Preserving Privacy." Management Science **53**(1): 101-116.

Menon, S., S. Sarkar, et al. (2005). "Maximizing Accuracy of Shared Databases when Concealing Sensitive Patterns." Information Systems Research **16**(3): 256-270.

Moor, J. H. (1985). "What is Computer Ethics?" Metaphilosophy **16**(4): 266-275.

Moores, T. T. and J. Cha-Jan Chang (2006). "Ethical Decision Making in Software Piracy: Initial Development and Test of a Four-Component Model." MIS Quarterly **30**(1): 167-180.

Nicolaou, A. I. and H. D. McKnight (2006). "Perceived Information Quality in Data Exchanges: Effects on Risk, Trust and Intention to Use." Information Systems Research **17**(4): 332-351.

Otjacques, B., P. Hitzelberger, et al. (2007). "Interoperability of E-Government Information Systems: Issues in identification and Data Sharing." Journal of Management Information Systems **23**(4): 29-51.

Parker, D. (1968). "Rules of Ethics in Information Processing." Communications of the ACM **11**(3): 198-201.

Paul, R. J. (2007a). "Challenges to Information Systems: Time to Change." European Journal of Information Systems **16**(3): 193-195.

Paul, R. J. (2007b). "Changing the Challenge: To Challenge Makes You Larger and Being Challenged Makes You Small." European Journal of Information Systems **16**(4): 299-302.

Pavlou, P. A. and A. Dimoka (2006). "The Nature and Role of Feedback Text Comments in Online Marketplaces: Implications for Trust Building, Price Premiums, and Seller Differentiation." Information Systems Research **17**(4): 392-414.

Pavlou, P. A. and D. Gefen (2005). "Psychological Contract Violation in Online Marketplaces: Antecedents, Consequences, and Moderating Role." Information Systems Research **16**(4): 372-399.

Pavlou, P. A., L. Huigang, et al. (2007). "Understanding and Mitigating Uncertainty in Online Exchange Relationships: A Principal-Agent Perspective." MIS Quarterly **31**(1): 105-136.

Ross, W. D. (1930). The Right and the Good, Oxford University Press, London.

Smith, H. J. and J. Hasnas (1999). "Ethics and Information Systems: The Corporate Domain." Management Information Systems Quarterly **23**(1): 109-127.

Stewart, K. J. (2006). "How Hypertext Links Influence Consumer Perceptions to Build and Degrade Trust Online." Journal of Management Information Systems **23**(1): 183-210.

Stewart, K. J. and S. Gosain (2006). "The Impact of Ideology on Effectiveness in Open Source Software Development Teams." MIS Quarterly **30**(2): 291-314.

Tavani, H. T. (2007). Ethics Technology: Ethical Issues in an Age of Information and Communication Technology (2/e), John Wiley and Sons, NJ.

Wagner, E. L. and S. Newell (2004). "'Best' for Whom?: the Tension Between 'Best Practice' and ERP Packages and Diverse Epistemic Cultures in a University Context. ." Journal of Strategic Information Systems **13**(4): 305-328.

Walden, E. A. (2005). "Intellectual Property Rights and Cannibalization in Information Technology Outsourcing Contracts." MIS Quarterly **29**(4): 699-720.

Walsham, G. (1996). "Ethical Theory, Codes of Ethics and IS Practice." Information Systems Journal **6**(1): 69-81.

Weiquan, W. and I. Benbasat (2007). "Recommendation Agents for Electronic Commerce: Effects of Explanation Facilities on Trusting Beliefs." Journal of Management Information Systems **23**(4): 217-246.

Weizenbaum, J. (1976). Computer Power and Human Reason: From Judgement to Calculation, WH Freeman and Company, USA.

Wiener, N. (1948). Cybernetics: Or Control and Communication in the Animal and the Machine,, Technology Press, Boston, MA.

Wiener, N. (1954). The Human Use of Human Beings: Cybernetics and Society, Free Association Books, London.