Ethical theory, codes of ethics and IS practice

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Abstract. *Ethical issues, with respect to computer-based information systems, are important to the individual IS practitioner. These same issues also have an important impact on the moral well-being of organizations and societies. Considerable discussion has taken place in the Information Systems (IS) literature on specific ethical issues, but there is little published work which relates these issues to mainstream ethical theory. This paper describes a range of ethical theories drawn from philosophy literature and uses these theories to critique aspects of the newly revised ACM Code of Ethics. Some in the IS field on problematic ethical issues which are not resolved by the Code are then identified and discussed. The paper draws some implications and conclusions on the value of ethical theory and codes of practice, and on further work to develop existing ethical themes and to promote new initiatives in the ethical domain.*

Keywords: codes of ethics, ethical theory, ethics of IS practice.

INTRODUCTION

The development and use of computer-based information systems involves a wide range of ethical issues requiring human judgement and action. Obvious examples include software piracy, the privacy of personal data and unauthorised access to computer systems through 'hacking'. Other issues which are more subtle in nature include those related to autonomy and control. An important ethical question in this area is the degree to which a person should have the right to work in a self-regulating way, rather than being subjected to close surveillance. The development of an answer to this question involves economic judgements on efficiency, but also moral judgements on a person's right to exercise some control in their own working lives. Another area where ethical choices need to be made in connection with IS is to answer the question of whose interests are supported or undermined by such systems, particularly in cases where there is a conflict of interest.

There is considerable discussion in the IS literature of specific ethical issues in connection with computerized systems. For example, Mason (1986) suggested an agenda of four major ethical issues for the information age, concerned with the privacy, accuracy, ownership and accessibility of data. A later contribution is the book edited by Dunlop & Kling (1991), which includes chapters and extensive reference material on issues such as privacy of data,

surveillance and computer crime. Of recent interest is the revised 'Code of Ethics and Professional Conduct' which was adopted by the American Association for Computing Machinery (ACM) in October 1992 (Anderson, Johnson, Gotterbarn & Perrolle, 1993). This code is aimed at IS practitioners, and offers a set of ethical principles and associated guidelines which members of the ACM should follow.

Although there is a considerable body of IS literature on specific ethical issues, there is little published work which directly relates these issues to more general ethical theory (an exception is Johnson, 1985). However, ethics have been a major concern of philosophers and others for thousands of years, and a massive body of theoretical literature in this area is available. It is not possible here to attempt a survey of this literature, but instead a classification of some main theoretical streams will be used for analytical purposes. A primary aim of this paper is to draw theories from the philosophical literature on ethics to clarify our thinking on the objectives, value and limitations of existing approaches to ethical issues in the IS literature, including the development of ethical codes, with a view to providing a theoretical basis and insights for future work in this area.

The next section of the paper provides a concise description of some key schools of thought in ethical theory. This theoretical basis is then used to develop a critique of the ACM code of ethics. A number of problematic ethical issues are identified which are not resolved by the ACM Code, and some work on ethics in the IS literature which addresses these issues is discussed. The final section of the paper draws some implications and conclusions for future IS research and practice with respect to ethical issues.

ETHICAL THEORY

The purpose of this section is to provide an outline of some main streams of thought in ethical theory, and in particular to focus on theories of normative ethics concerned with guiding action. The theories presented here were drawn from the literature on normative ethics (Frankena, 1963; Singer, 1991), and the selection of particular approaches for inclusion was made in terms of their relevance to IS practice. This connection will be discussed in detail in the later sections of the paper.

Deontology

Deontological theories of ethics (from the Greek *deon*, duty) are based on the view that there are certain sorts of acts that are wrong in themselves, and thus they are morally unacceptable, even if the ends which are being pursued are morally admirable. This approach to ethical theory leads to lists of rules or principles which an individual should follow in any circumstances. An example of such a set of rules is the Ten Commandments in the Bible.

The advantage of the deontological approach is that, in principle at least, it can provide a set of rules to answer the fundamental question of 'How ought I to live?'. However, a number of basic objections can be raised. These include questions as to what it is about a wrong act that actually

makes it wrong, and why certain things are on the deontologist's list, but not others. We might, for example, accept that stealing was wrong, but are we therefore required to condemn a parent stealing a small amount of food in order to feed his family who are starving? A second objection to the view of unbreakable rules is that they may, at times, be in conflict with one another; in the above example the duty not to steal conflicts with the parental duty to feed one's family.

A variant of the deontological approach discussed above is an approach to ethics based on prima facie duties. The idea here is to develop a set of duties which are not ranked in any way. It is impossible to tell in advance which relevant duty will turn out to matter most in the situation being faced. All that can be done is to consider the circumstances and then try to decide whether it is more important to adhere to one duty or another. An advantage of this approach is that it allows a way out in the case of conflict between duties, as in the example of the parent stealing for their starving family. However, the approach does not offer any resolution of the 'good means versus good ends' dilemma, and in addition it is not clear why, if we accept the highly relative stance of duties which can be overridden, we should accept that there are any fixed moral principles for action at all.

A further normative approach to ethical theory focuses on rights, which play a significant role in our contemporary societies with respect to human beings and, more recently, with respect to various other animal species. Johnson (1985) notes that rights are normally associated with deontological theories, and they represent one approach to examining our duties to other life forms. They can provide an international currency for ethical ideas, and can play a valuable part in contributing to a focus on ethical issues as central to human affairs. However, they are not universally accepted, and can be held to be strongly conditioned by particular cultures. Nevertheless, they can provide a useful focus for debate on ethical issues.

Consequentialism

Consequentialist theories of ethics focus on the results or consequences of actions, rather than the rightness of the actions themselves. They are teleological theories (from the Greek *telos*, goal), and can be considered to be the opposite end of the theoretical spectrum from deontological theories. The main argument in favour of consequentialism is that, if certain values are to be believed in and upheld, then it makes sense to take actions which lead to the support of those values.

A number of objections can be raised to any pure form of consequentialism. Firstly, it is impossible to be sure of knowing all of the consequences of an action, and thus to be certain the right action is being taken in consequentialist terms. A counter to this argument is to say that, in pragmatic terms, an action should be taken on the basis of the best possible knowledge of the consequences available at that time. A more fundamental problem with consequentialist theories is that they can lead a human being to carry out acts which would normally be considered to be evil, if it was felt that the overall consequences would be improved. For example, the torture of a prisoner in a wartime situation could be justified on the basis of saving other lives by obtaining valuable information. There is a fundamental conflict here between deontological theories of right acts and teleological theories of right consequences.

Consequentialist theories argue that it is the good consequences of our action which should be considered, but how should 'good' be defined? One influential theory in this area is utilitarianism which equates good with utility or usefulness. The basic idea is that the utilities of the consequences of our actions should be added across everyone affected, and the action which maximises the overall utility chosen. A version of this approach is hedonistic utilitarianism, which equates utility with promoting pleasure and avoiding pain. A contemporary version of utilitarianism is exemplified by the utilities of the micro-economist, which do not necessarily involve simple issues of pleasure and pain, but can also encompass, for example, aesthetics or concern for the environment.

There are a number of basic problems with utilitarian approaches, but only two will be mentioned here. Firstly, there are major difficulties in comparing the utilities which are to be added together. For example, many of the most important aspects of life cannot be valued at all; parents would not normally sell their children for any price, so how do we assign a value to these children. Some elegant methods have been developed by economists to address this problem, but they remain contentious. A second objection to utilitarianism is that it may, in some circumstances, be suited to public policy questions involving collective action, but ill-suited as a guide to the ethics of individual action. It is highly unlikely that any sensible attempt to assess the affects of our personal actions on the utilities of all the human beings in our country or the world can be made, and thus we need other guides to individual action.

One approach to the question of individual action is offered by virtue theory, which focuses on the question 'What kind of person should I be?' rather than the question 'What ought I to do?'. If this approach is taken, the question needs to be asked about what should count as virtues. Some attributes such as courage may be universally valued, but others are strongly culture and time-dependent. For example, many people would have accepted the virtue of a wife's submissiveness to her husband in an earlier age, but this view has changed radically in the present period (at least in most Western societies). A consequentialist version of virtue theory would argue that a particular virtue should be cultivated if its expression in action will be conducive to the greater general good, although the usual definitional and measurement problems of consequentialist approaches then apply.

A CRITIQUE OF THE ACM CODE OF ETHICS

The newly revised ACM Code of Ethics and Professional Conduct (called the Code in the rest of this section) and associated guidelines are given in Anderson, Johnson, Gotterbarn & Perrolle (1993), which also provides a set of nine short 'cases' to illustrate applications of the Code in IS practice. The purpose of this section is to use the ethical theories described above to develop a critique of the Code. The critique developed here is not intended to be comprehensive, but is concerned both with analysing some potential contributions of the Code to IS practice, and with identifying and illustrating some important limitations of the Code, aimed at stimulating appropriate further work.

Before concentrating on this analysis, it is worth noting the expressed objectives of the Code

as being 'an embodiment of a set of commitments of that association's members', intended 'to serve as a basis for ethical decision making in the conduct of professional work'. However, Anderson *et al.* (1993) quote Frankel (1989) to the effect that codes of ethics can 'help persuade the public that professionals are deserving of its confidence and respect, and of increased social and economic rewards'. Similarly, Johnson (1985) says that professional codes serve many purposes, 'not the least of which is to promote the interests of members of the profession'. Motives are seen here which go beyond simple ethical practice towards the specific promotion of the group of IS 'professionals'. The very notion of this has been disputed by Orlikowski & Baroudi (1989) on the grounds that IS practice would be better served by a wider definition of IS workers as part of an occupational rather than a professional group. Nevertheless, whatever the motives behind the development of the ACM Code, this paper takes the view that it represents, overall, a valuable contribution to the IS field, since it makes ethical issues in connection with IS practice visible and explicit.

Analysis of the potential contribution of the Code

Table 1 utilizes the ethical theories from the previous section to examine contributions of the Code under different theoretical headings, and in addition provides an example from the Code in each of these categories. The examples and the contributions of the Code are discussed in the rest of this sub-section; a discussion of limitations of the Code will be provided in the next sub-section.

The main thrust of any code of ethics can be considered to be deontological, in that sets of duties are normally a large element, and the ACM Code is no exception. The 14 principles are described as 'imperatives', and they range across a wide set of issues. Moral duties for the IS practitioner are stated in the Code to include: giving proper credit for intellectual property,

Table 1. Analysis of the ACM Code and Ethical Theory

Ethical theory	Example in ACM Code	Contribution of Code
Deontology	1.6 Give proper credit for intellectual property	Useful set of principles for IS practice
Prima Facie duties	2.6 Honour contracts ... unless other ethical principles ... take greater priority	Welcome recognition of conflict between duties in some cases
Rights	3.1 Articulate social responsibilities of members of an organizational unit	Some discussion of the 'rights' of societal members, users etc.
Consequentialism	1.1 Contribute to society and human well-being	Considerable discussion of consequences of actions in guidelines to the code
Utilitarianism	2.1 Strive to achieve the highest quality, effectiveness and dignity ... in professional work	Some attempt to discuss the meaning of 'good' work and a 'good' society
Virtue theory	1.3 Be honest and trustworthy	Brief mention of a number of attributes of the virtuous professional

respecting the privacy of others, honouring confidentiality, acquiring and maintaining professional competence, improving public understanding, providing opportunities for organizational members to learn about computers and supporting adherence to the Code on the part of other ACM members. A key contribution of the Code can thus be considered to be a thoughtful and useful set of principles for IS practice.

There is a welcome recognition in the guidelines to the Code of the conflict between duties or principles which will occur in particular cases. For example, the ACM member is required to honour contracts, agreements and assigned responsibilities, but it is noted that 'on some occasions other ethical principles may take greater priority'. Similarly, members should obey laws unless they are 'immoral or inappropriate and, therefore, must be challenged'. The deontological variant of prima facie duties is thus a key characteristic of the Code. However, there is one instance in which, unlike the previous cases, a rigid priority is suggested between different ethical duties. The member is instructed to be fair and take action not to discriminate on the basis of race, sex, religion and other similar factors. However, the member is also told that the ideals of equal opportunity to benefit from the use of computer resources does not 'justify unauthorized use of computer resources nor do they (the ideals) provide an adequate basis for violation of any other ethical imperatives of this code'.

There is no explicit mention of rights in the Code, although it is possible to detect some concern with rights, and an identification of some possible rights groups. For example, members of an organizational unit are seen to have rights to learn the principles and limitations of computer systems. Users of systems have rights to have their needs assessed and incorporated in the statement of requirements, and to have their dignity protected. Members of the society are considered to have 'fundamental human rights' which the IS practitioner is obliged to protect.

The deontological thrust of the Code does not preclude, however, a considerable emphasis on consequentialist ideas. For example, the first imperative is for the IS practitioner to 'contribute to society and human well-being'. In discussing the honouring of contracts, the computing professional is told that they 'must accept the responsibility for the consequences (of their ethical judgements)'. In a similarly consequentialist vein, organizational leaders are told that they are 'responsible for ensuring that computer systems enhance, not degrade, the quality of working life'.

It is necessary for teleological theories to have some definition of 'good' consequences, and there is a brief discussion of a 'good society' in the guidelines, mentioning aspects such as 'quality of life' and 'a safe natural environment'. These could be taken to reflect an implicit basis in utilitarianism. With respect to professional work in the IS area, 'good' work is defined as the striving for 'the highest quality, effectiveness and dignity in both the process and products of professional work'.

The emphasis of the Code is on 'right acts' and to some extent on 'right consequences', but there are, in addition, a few brief mentions of a number of attributes of the good person, related to the question raised by virtue theory of 'what kind of a person should I be?' The IS practitioner is told to be 'honest and trustworthy' and there are later references to dignity, although this is not defined in a more specific way.

Analysis of some limitations of the Code

The Code provides a useful set of principles or duties for the IS practitioner, but the nature and relationship of these duties remains somewhat vague. Are there any duties which should be followed under all circumstances? If not, are there any fixed priorities between duties, as the Code implies in at least one case, or do all individual cases need to be considered on their merits?

A second major limitation of the Code is that both good acts and good consequences are discussed, but without any explicit recognition that there may be conflict between them in some cases. The ACM member is advised in a number of places in the Code and guidelines to follow their conscience with respect to duty conflicts, but there seems to be an assumption that good means or acts lead to good ends. The fundamental moral dilemma that this is often not the case, which has been central to the philosophical debate on ethical issues over the centuries, is not really addressed in the Code and its guidelines.

With respect to a theory of what is meant by good, it is not surprising that the Code offers little in this area at the societal level, since this can be considered to be beyond the scope of such a code. However, a description or discussion of 'good' IS practice should be a less daunting prospect, and a start has been made in the Code with the material on the quality, effectiveness and dignity of the process and products of professional work.

The Code is perhaps most limited in addressing the question of 'What sort of a person should I be?'. Again, it could be argued that this is beyond the scope of such a code, or even that it is inappropriate to offer anything in this area, since human diversity needs to be valued. Without disagreeing with this latter principle, there may still be some scope to identify desirable attributes of the individual, such as honesty and dignity which are currently included in the Code. At least some discussion on this point could be included in the guidelines attached to a code for the IS practitioner.

In contrast to defining the 'virtuous' practitioner, which could be considered to be outside the scope of the Code, the implicit recognition of rights and rights groups in the Code could be a precursor to a rather more fully-fledged approach. It was noted earlier that, although rights are likely to be contentious in some areas, they can provide a valuable currency for ethical ideas, and thus a focus for discussion. Rights groups with respect to IS practice could include users, other stakeholder groups in the organization affected by the information system, shareholders and relevant stakeholder groups outside the organization.

PROBLEMATIC ETHICAL ISSUES: RELEVANT LITERATURE

The above discussion of the limitations of the ACM Code identified four problematic ethical issues for IS practice: conflicts between duties and good means/ends, the meaning of 'good' IS practice, the question of the virtuous practitioner and the rights of various stakeholder groups. In this section, each of these issues will be explored further by a discussion of some relevant IS literature. The purpose here is not to carry out a full literature survey, but to point to the style and

content of some interesting work on these issues, and to use this as a basis for discussing desirable future work. A summary of the problematic ethical issues and key references is given in Table 2.

Conflict between duties and good means/ends

Anderson *et al.* (1993) outline nine case studies to illustrate the ACM Code, and some of these cases highlight situations where there is a conflict between the various duties in the Code. For example, the authors describe the creation of a database management system for the personnel office of a medium-sized company. The system will incorporate highly sensitive personnel data, and the system's designer is worried that the system is not secure enough. She has expressed these fears to the company's management, but they have not responded positively to her suggestions for a more secure system. If she is unable to persuade management to change their mind, should she honour her contract to provide the system or honour her obligation to respect personal privacy and confidentiality?

A good illustration of means/ends conflict is provided by Boland & Day (1989), who describe an in-depth case study of the experiences of a systems analyst employed by a credit company and, in particular, her work on a loan applications system. The analyst experienced a moral dilemma with respect to what constituted an improvement in the loan systems. The means employed by her appeared to be positive since the emphasis was on user-friendly systems. However, she was aware that the ends of the system, from the point of view of management, were systems which allowed lower paid, less able people to be hired as system users to replace higher paid, more able people. She was not happy with these 'deskilling' ends, and thus experienced a moral dilemma in her work.

A second in-depth case study illustrating a means/ends ethical dilemma is reported by Orlikowski (1992). She describes a case study of the development and use of CASE tools designed to increase productivity in a software consulting firm. The 'means' of efficient tools appear

Table 2. Problematic ethical issues: some relevant references

Problematic ethical issue	Some relevant references
Conflicts between duties and good means/ends	Anderson *et al.* (1993): conflict between duties, e.g. honour contract or privacy Boland and Day (1989): user-friendly systems as deskilling Orlikowski (1992): efficient software tools as technologies for control
'Good' IS practice	Ehn and Kyng (1987): collective resource approach allied to worker interests Jönsson (1991): collaborative process of critical enquiry Hirschheim and Klein (1989): free and open discussion aimed at emancipation
What sort of person should I be?	Boland and Day (1989): an individual analyst's experiences of moral choice Walsham (1993): IS analyst as moral agent, including self-reflection
Rights of groups	Mumford and Weir (1979): Rights of user groups for full participation Ehn and Kyng (1987): Rights of trade union groups Kyng (1991): Rights of workers to be involved in mutual learning with designers

positive, but the goals of management were seen by the software consultants as involving the use of the tools as a technology for tight control of the consultants' work. Some of the consultants felt that these ends were unethical, being too restrictive of their personal autonomy, and some efforts were made by them to undermine the institutionalization of the tools.

'Good' IS practice

A number of writers in the literature have addressed the question of 'good' IS practice directly, by arguing for approaches which place explicit emphasis on ethical issues during the design and development process. Ehn & Kyng (1987) describe the collective resource approach, which is a deliberate attempt, on ethical grounds, to provide empowerment for workers at lower hierarchical levels in organizations. The approach has led to specific initiatives such as the Utopia project (Bødker *et al.*, 1987) on the design of computer-based tools for skilled graphic workers.

A second approach to 'good' IS practice through the design and development of systems with an explicit ethical emphasis is described by Jönsson (1991). The approach involves the IS analyst engaging directly with participants in a collaborative process of critical enquiry into problems of social practice in a learning context. Two specific case studies are given, involving the development of information systems for a small production plant in the Volvo group, and financial IS for the management of caring institutions of the social welfare department of a particular Swedish municipality.

Hirschheim & Klein (1989) discuss four roles of the systems analyst as systems expert, facilitator, labour partisan and emancipator or social therapist. It is the latter two of these which relate to the concerns for explicit ethical emphasis in 'good' practice. The labour partisan role has been discussed above in the context of the collective resource approach. The role of emancipator or social therapist is developed from critical theory (Habermas, 1972), and the idea is to try to create understanding. The approach recommends a critical examination of existing barriers to emancipation such as authority and illegitimate power, peer opinion pressure and the bias and limitations of language use.

What sort of person should I be?

There is little in the current IS literature which attempts to explore the question of individual moral development, and the focus in most of the explicit work on ethical issues is concerned with 'what should I do?' rather than 'what sort of a person should I be?'. An exception to this is the paper by Boland & Day (1989), which explores the experiences of systems design and the related moral questioning of an individual systems analyst.

A second paper which is highly personal in its focus is Walsham (1993). This paper describes the role of a systems analyst as a moral agent, and suggests one of the 'virtues' of a good analyst as self-reflection. This should include reflection on the analyst's own motivations in carrying out his or her work in particular ways which affect others, and whose interests are served by this. The moral agent role is linked by Walsham to the theme of individual respon-

sibility, in which the analyst internalizes the view that the whole world depends on his or her own thoughts and actions. A similar point is made by Ladd (1991) who argues that IS practitioners should aim to possess the virtue of 'responsibility', which is not defined negatively in terms of actions which bring praise or blame from others, but positively in terms of a comprehensive concept of moral responsibility to all others with whom one has a relationship or who are affected by one's actions.

Rights of groups

Early work in the IS literature on the rights of groups was concerned with the rights of users to participate in the design and development process. An example of the practical application of these ideas is the Ethics method (Mumford & Weir, 1979), which was derived from the socio-technical approach to the design of work in organizations. This approach emphasizes the importance, for social groups in general and computer system users in particular, of elements such as job satisfaction, autonomy and self-determination. These elements can be thought of as components of the rights of user groups.

The collective resource approach to systems development described by Ehn & Kyng (1987) involves direct concern for the rights of trade union groups to be intimately involved in the design of their work and work processes. Kyng (1991) argues that crucial aspects of work are often poorly understood in traditional systems development, leading to severe difficulties when the system is introduced. Thus, both on practical grounds, and on ethical grounds concerning the rights of workers, Kyng argues for new approaches to systems design involving mutual learning between designers and users.

IMPLICATIONS AND CONCLUSIONS

The purpose of this final section is to reflect on the analysis in the paper, and use it to draw implications and conclusions for future work on IS and ethics.

The value of ethical theory

A particular set of ethical theories have been used to categorise and critique some recent work on IS and ethics, including the revised ACM Code. The value of theory in this context is not that it resolves complex ethical issues, but that it can enable more informed and thoughtful reflection and debate. A related benefit of the use of ethical theory is that it provides a basis for a cumulative tradition of research and writing; individual pieces of work may have value, but the development of a substantial body of knowledge in any field requires a solid theoretical basis. Thus, a specific conclusion from this paper is that it would be desirable for those writing on ethical issues related to computer-based IS to incorporate an explicit connection between their work and mainstream ethical theory. As an illustration of the practical utility of such an approach, Gentile & Sviokla (1990) developed a teaching case which analyses management issues raised

by the application of IT, using analytical tools based on the ethical theories of utilitarianism, rights and duties.

Codes of practice

It was argued earlier that the ACM Code, despite its limitations, is a valuable contribution to practice. Oz (1992) considers that further benefit could be obtained by amalgamating the various ethical codes which exist in the IS field, including the ACM Code, into one international standard. A specific implication from the current paper, whether this is done or not, is that any future code would benefit from a more sophisticated preamble concerning the nature of such codes and what they can and cannot achieve. For example, a more developed discussion would be valuable on the dilemma of good means conflicting in some cases with good ends. Other areas for possible improvement to the ACM Code, derived from the previous analysis, include further development of the concept of 'good' IS practice, and the explicit identification of the rights of particular stakeholder groups in an IS development context.

Further work on existing ethical themes

Even if they are extended and developed, codes of practice do not provide a suitable format for the in-depth discussion of particular ethical themes. Thus, there is a need for a broader literature which addresses this task. The previous section of the paper provided an illustration of some interesting material related to four specific ethical themes, namely means/ends conflict, 'good' IS practice, desirable personal attributes and rights groups. Although some good work was identifiable in each area, there is little sign at present of effective coordination and cross-referencing between different pieces of work. Thus, a broad implication is the need for the development of these existing research themes, not in isolation, but with the aim of creating a cumulative body of literature. The valuable part which ethical theory could play in this respect has already been noted.

New initiatives

Is the development of existing themes in the literature enough, or are more radical initiatives needed to further ethical approaches to IS? As an example of such an initiative, Wagner (1993) describes a process-based approach to ethical issues in the context of systems design. She argues the need for an 'intercultural dialogue' between IS designers and users, which includes an explicit emphasis on ethical issues such as the handling of conflict, the implementation of 'egalitarian values' and reflection on designers' own values and norms. Wagner's work can be seen as part of a wider initiative being undertaken by members of the International Federation for Information Processing (IFIP) working group 9.1, involving the development of a continuous professional discourse on ethics on the part of systems designers. This group held a recent conference on 'ethics and systems design' (Clement *et al.*, 1994), in which they argued that ethical codes can be useful 'as some basis for a minimal international standard', but that they

are not sufficient. The focus of the conference was to discuss and analyse the relationships between ethics and the politics of work in particular contexts, and to use this experience to develop practical guidelines that would help the professional community of systems designers to identify political and ethical dilemmas and respond to them. The objectives of this group are ambitious, but they represent a refreshing new approach to ethical issues in the IS area, arguing that particular groups, such as systems designers, should engage in major and continuing debate on ethical issues within their own professional communities.

The role of designers, managers and academics

The above initiative on ethical issues by members of the design community is welcome, but the ethical debate with respect to IS should not be restricted to that community alone, since ethical issues are of vital importance to all organizational members, and indeed to all members of society at large. For example, in addition to systems designers, managers concerned with IS have a crucial role to play. The individual manager has access to a wealth of personal experience in the ethical domain, and a wider sharing of these experiences within and outside the management community would be extremely valuable as the essential 'raw material' for discussion and debate on IS and ethics. One problem is that practising managers may find it difficult to describe their experiences in a detailed and frank manner due to a number of practical and personal concerns such as limited time, confidentiality concerns regarding their organization and the possible sensitivity of their colleagues in the ethical domain. Nevertheless, by using various methods to achieve anonymity, such as changing the names of persons and organizations, there is scope for practising managers to describe their experiences of ethical issues, both within their own professional community, for example at management conferences, and in debate with other professional groups such as systems designers. In addition, new information technologies could be helpful on the issue of confidentiality, for example through the use of electronic media to conduct anonymous Delphi approaches, or by the use of the Internet as an enabling mechanism for wide-ranging debate on ethical issues in the IS field. Academics can help the debate within and between professional communities by providing theoretical frameworks, commentaries on ethical issues, descriptions of particular case studies, and syntheses of previous work and new initiatives. This paper has aimed to be one such academic contribution.

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Biography

Geoff Walsham joined the Management School as Professor of Information Management in October 1994, after 19 years at Cambridge University. Prior to that, he was a lecturer for four years at the University of Nairobi in Kenya, and has also worked as an operational research analyst for BP Chemicals. His research over the last ten years has been concerned with computer-based information systems and their implications for organizations and society. His current research interests include information systems strategy and implementation, business innovation enabled by information technology, geographical information systems, team working systems, and information technology in developing countries.