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Towards a Code of Cyberethics for a Municipality in South Africa

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Abstract: Cybertechnology has had a significant impact on our social and moral systems. Ethics is a branch of philosophy that deals with what is considered to be right and wrong. One of the ways in which ethical standards in the public service in South Africa can be promoted is by developing Codes of Conduct that set a standard of behaviour to be followed within specific occupational categories. One occupational category is Information and Communication Technologies (ICT). The diversity of ICT applications (such as supply chain management) and the increased use of ICT (such as e-Business) have created a variety of ethical issues. Kantian Ethics is based on the idea that duty is fundamental and 'principle based'. The authors suggest that principle based theory should serve as backdrop to a Code of Cyberethics for a public service entity (a metropolitan municipality) in South Africa.

In this paper the concepts of cybertechnology and cyberethics are introduced. eThekweni Municipality, the most populous municipality in South Africa, is selected as the environment for the formulation of a Code of Cyberethics. The methodology for the formulation of a Code of Cyberethics for eThekweni Municipality is described.

Keywords: Cyber Law, Cyberethics, Intellectual Property Rights.

I. Introduction

Cybertechnology has had a significant impact on our social and moral systems. Ethics is a branch of philosophy that deals with what is considered to be right and wrong. Ethics is the study of what is good or right for human beings [9]. During the years, philosophers have proposed many ethical guidelines. It should, however, be noted that what is unethical may not necessarily be illegal. Thus, in many instances, an individual or organisation faced with an ethical issue is not considering whether to break the law. One of the ways in which high ethical standards in the public service

can be promoted is by developing Codes of Conduct that set a standard of behaviour to be followed within specific occupational categories [7]. One occupational category is Information and Communication Technologies (ICT). In this paper the formulation of a Code of Cyberethics for eThekweni Municipality in South Africa is described.

Cyberethics can be understood as a branch of applied ethics [26]. In today's complex environment, interpretations of 'right' and 'wrong' are not always clear. 'Right' actions are those that it is useful to praise, 'wrong' actions are those that it is useful to blame [17]. The 'right' ethical answer may or may not be the answer that is prescribed by law; in fact depending on the ethical assumptions made, the two may on occasion be in conflict [18]. The challenge is to make essential ethical decision-making explicit so as to make it better [21]. Although tailor-made Codes of Conduct will not be sufficient in themselves, they should be viewed as an integral part of integrating ethics management with the broader public management environment [7].

Many organisations develop their own codes of ethics. A code of ethics is a collection of principles intended as a guide for employees in an organisation. The diversity of ICT applications (such as supply chain management) and the increased use of ICT (such as e-Business) have created a variety of ethical issues. Ethical theories are theories about justifying our moral actions [16]. They propose the appropriate reasons on which our moral decisions should be based. The structure of this paper is as follows: Ethical theories with a focus on principle based theory are introduced. The concepts of cybertechnology and cyberethics are discussed. The methodology for the formulation of a Code of Cyberethics is described. Some concluding remarks are then given.

II. Ethical Theories

During the past centuries, a broad range of ethical theories has been developed to identify how we should determine what is actually good not only for one's self but also for others. Ethical theories attempt to answer the question, why

be ethical? Ethical theories provide a framework for analysing moral issues via a scheme that is internally coherent and consistent as well as comprehensive and systematic [26]. From the literature, one key ethical theory is Kantian Ethics.

One of the basic tenets of Kantian Ethics is based on the idea that duty is fundamental and is 'principle based'. Principle based theory is one that bases the value of an action on the nature of the action itself. One advantage of duty ethics is that it gives a powerful and clear framework for stating codes of ethics. Another advantage is that it is impartial: the same rules apply to all persons. For example, eThekweni Municipality's published Disciplinary Procedures, applies to all its employees. It is argued that principle based theory should therefore serve as backdrop to formulating a Code of Cyberethics.

II. 1 Principle Based Theory

Principle based theory emphasises that moral actions should be in accordance with a pre-established rule or rules. The expectation is that progress toward an objective standard of moral behaviour will be made if people based their actions on fixed rules. It is argued by the authors that an example of fixed rules, is a Code of Cyberethics.

A well-known proponent of a rule based theory is Immanuel Kant (1724 - 1804). He was convinced that all rational thinking people should be able and willing to subscribe to a basic rule that should govern all moral behaviour. This basic rule can be expressed as follows: act in such a way that your action could be a universal law. Kant was convinced that such a strategy will improve the quality of moral decisions and enhance the respect that people pay each other [16]. One advantage of this approach is that it provides for the obligations that we have towards other persons (for example, ICT software developers) in our respective social roles. One problem associated with this approach is that contrary to Kant's expectation, all rational thinking people do not conclude to the same rules for moral behaviour. For example, in the ICT domain there may be dissension whether one may distribute copies of downloaded music from the Internet using, for example, eThekweni Municipality's ICT infrastructure.

In South Africa, legislation compels municipal officials and councillors to make full disclosures in respect of gifts and business interests in respect of municipal tender processes. With effect 1 October 2005, eThekweni Municipality was required by law to bring into effect a supply chain management policy that will revolutionise the way it undertakes business (including e-Business) and to ensure greater transparency and fairness in the tender process. As a result hereof, eThekweni Municipality has 'decided to introduce a set of processes and ethical standards which ... will allow us to stop practices and ensure greater transparency' [21]. The concept of cybertechnology is now discussed.

III. Concept of Cybertechnology

Cybertechnology refers to a wide range of computing and communication devices, from stand-alone computers to 'connected' or networked, computing and ICT [26]. Networked devices can be connected directly to the Internet or to the other devices through one or more privately owned computer networks. Privately owned networks, in turn, include Local Area Networks (LANs) and Wide Area Networks (WANs). The Internet and privately owned computer networks, such as LANs and WANs, are perhaps the most common and well-known examples of cybertechnology. Cyberethics refers to the study of moral, legal and social issues involving this technology. The focus of this paper is on the moral issues embraced by cyberethics from a principle based theory perspective.

IV. Cyberethics

Some researchers use the term 'computer ethics' to describe the field that examines moral ethics pertaining to ICT, see for example, [8] and Johnson [10]. With concerns about ethical issues involved (the Internet in particular), other researchers use the term 'Internet ethics' [11] instead. It is felt by the authors that ethical issues are not limited to the Internet or to computing machines as they also include privately owned computer networks and ICT. Hence for the purposes of this paper, the relatively new term 'cyberethics' [19, 26] is used to capture some of the wide range of moral issues involving cybertechnology.

It is proposed that cyberethics is a more accurate term than either 'Internet ethics' or 'computer ethics' for two reasons:

- the term 'computer ethics' can connote ethical issues construed as pertaining to stand-alone or 'unconnected' computers. However, with the advent of networked systems, a computer system may nowadays be thought of more accurately as a new kind of *medium* as opposed to a *machine*; and
- the term 'computer ethics' may suggest a field of study that is concerned exclusively with ethical issues involving ICT professionals. The field of cyberethics is not linked to an analysis of moral issues that affect only these professionals [26].

Crimes committed in cyberspace require cyber laws. At the Convention of Cybercrime held on 23 November 2001 in Budapest, Hungary, thirty member states of the Council of Europe signed the first international treaty on criminal offences committed against or with the help of ICT such as the Internet.

IV. 1 Codes of Ethics

The value of codes is often overstated: on their own and unaccompanied by the appropriate habits, expectations and sanctions, codes of conduct are of little value [21].

Furthermore the appropriate basis for codes of conduct is often equally misunderstood: what legitimises codes is not stakeholder consent but ethical content. Nevertheless, codes of conduct (such as a proposed Code of Cyberethics for eThekweni Municipality) can be extremely useful. By communicating corporate purposes explicitly regarding controversial matters (such as copying someone else's software for personal use) and by clarifying which stakeholder expectations are legitimate, codes of conduct can eliminate ignorance as an excuse. Furthermore they can be an effective tool for sharpening business accountability and improving corporate governance. For example, while eThekweni Municipality respects the rights to privacy, it will make information available at its website at <http://www.durban.gov.za> to ensure that its supply change management policy is transparent [25].

An information governance framework should contain measurable and strategic goals which will be beneficial for the provider and citizens and promote ethical standards. For eThekweni Municipality's supply chain management policy, a 'code of ethical standards has been established for officials to promote mutual trust and respect and provide where business can be done with integrity' [25]. Professionals in the public service are custodians of the public trust and therefore have to be worthy of that trust [7]. For a discussion of a trust model for e-Business in South Africa, see for example, [4].

Codes must be properly structured and should not reflect the prevailing values or culture of the organisation (such as eThekweni Municipality). For example, when the existing culture is less than perfect, enshrining it in a code merely reinforces bad practice - what it prescribes must be better than the existing norm. A code of conduct is **not** a survey of employees' ethical attitudes [21]. It is meant to express, for example, eThekweni Municipality's fundamental aims and values and it is for the eThekweni Municipality to state what those aims and values are. It sets out what constitutes ethical conduct for the business (such as e-Business) and its validity depends solely on the correctness of the values and principles it expresses - not on employee agreement. Ideally, stakeholders will share the values embodied in the code. However, if they do not it is the stakeholders (eThekweni Municipality employees) and not the code which should be changed. One needs to take 'into consideration that citizens' expectations of government are to a large extent influenced by their interaction with municipalities, mainly because of the types of services that are rendered' [7]. Such are the challenges for the formulation of a Code of Cyberethics for eThekweni Municipality.

Codes of ethics involve the formalisation of some rules and expected actions [27]. Violation of a code of ethics may lead to the termination of employment. Similar procedures exist in eThekweni Municipality's Disciplinary Procedures. Codes of ethics are valuable for raising awareness of ethical issues and clarifying what is acceptable behaviour in a variety of circumstances. In the case of eThekweni Municipality, an ICT Code of Cyberethics does not exist and

the formulation of one is required to prevent Internet abuse and misuse by employees. Organisations are increasingly faced with serious legal and liability issues stemming from wrongful use of software by their employees [22].

The acceptance of a Code of Conduct is a very central part of being a professional [7]. Codes of ethics have limitations because of their nature to generalise acceptable behaviour - despite the variations in social and ethical values that may exist in different communities. This will need to be taken account of when formulating a Code of Cyberethics for eThekweni Municipality. For example, it will be arrogant to impose on eThekweni Municipality employees the ethical ICT standards developed in and appropriate for Hong Kong, or indeed doing the reverse. However, such impositions do appear to be commonplace and they tend to lead to outright rejection (rather than to higher ethical standards, which may be the intention). The stakeholder theory of business typically holds that business is accountable to all its stakeholders and that the role of management is to balance their competing interest [21]. According to eThekweni Municipality's Disciplinary Procedures, the 'maintenance of discipline is the responsibility of management'.

IV. 2 Employee Involvement

Employee involvement can be valuable [21]. A code will be most effective if it addresses matters which actually cause concern. Sternberg [21] suggests that it is sensible to consult stakeholders (especially employees) to determine what situations are genuinely problematical. This approach was undertaken by the authors. Informal discussions were held by the first author with colleagues at eThekweni Municipality. Some of the cybertechnology and related concerns raised by these colleagues are reflected in Table 1.

Table 1. Cybertechnology and related concerns raised by the first author's colleagues at eThekweni Municipality

No	Concern raised
1	May I copy someone else's software for my own personal use and distribute it?
2	May I download music/video from the Internet for personal use and distribute it?
3	May I access private and confidential information without consent and distribute it?
4	May I access other's desktops or laptops without consent?
5	May I take programs that I have done for eThekweni Municipality and keep it for personal use or use it at another employer?

Consultation can provide useful information about the stringency (or laxity) of employees' ethical standards and the degree of ethical diversity prevailing in eThekweni

Municipality's heterogenous workforce. Furthermore by making eThekweni Municipality employees part of the code-making process may improve compliance with the Code of Cyberethics: since employees feel that they have had a role in formulating it, they are more likely to understand the code and observe its strictures. However, human beings are generally capable of discovering the modes of life that are best suited to themselves as individuals [24]. Research into why so many Codes 'die' indicates that many things can go wrong in the process of institutionalising codes [7]. These mistakes can include the way the Code was developed, written, distributed and enacted.

Once the Code of Cyberethics has been formulated and adopted by the eThekweni Municipality Strategic Management Team (Stratman), the document should form part of the City Manager's Standing Orders. Publishing a formal code serves as an explicit signal of eThekweni Municipality's commitment to ethical business conduct. By proclamation and Stratman endorsing the values it proclaims, they must make it clear that it will be enforced and they also show that they consider themselves to be bound by it. To be worthy of respect, the adopted Code of Cyberethics must apply and be seen to apply to every employee in eThekweni Municipality. This underscores one of the advantages of duty ethics.

IV.3 Intellectual Property

Intellectual property is the intangible property created by individuals or organisations. To varying degrees in different countries, intellectual property is protected under laws relating to copyright, trademarks, patents and trade secrets. The copying of software is generally seen to be of greatest concern - at least to the software developers [27]. Software piracy, the unauthorised copying of computer software, is widespread in many organisations today [12]. In eThekweni Municipality's Disciplinary Procedures, an employee may be dismissed for dishonest behaviour or wrong disclosure of privileged information.

The topic of intellectual property rights (IPR) is seen to be important since it relates to the fundamental right to private property - especially property that represents the fruits of one's endeavours, see for example, [13]. IPR protects the way ideas are expressed but not the ideas themselves [27]. IPR may be seen as a mechanism for protecting the creative works of individual people and organisations. However, this is problematic in societies that place less value on individual freedom and more on social order. In many developing countries, Steidlmeier [20] suggests that 'individual claims on intellectual property are subordinated to more fundamental claims of social well-being'. In these countries (including South Africa), the welfare of society is considered to be more important than that of any individual.

Much of the IPR discussion relates to the debate about rights and duties. Software developers demand the right of stringent legal protection for the fruits of their labour and compensation for resources expended in software

development. Consequently consumers are then deemed to have a duty to pay for that software (whether it is in code, music, video or other digitised forms) and to respect the intellectual property by not stealing (copying or downloading it, for example, from the Internet).

V. Data and Information Privacy

The notion of privacy has become one of the most contentious issues of the global information age due to the capability of computers to perform actions previously impractical or impossible. Computers are able to advance exponentially and make unmanageable tasks practically possible [5].

Table 2. Summary of six data protection principles from the Office of the Privacy Commissioner's Office for Personal Data, Hong Kong (Source: Retrieved 10 October, 2005 from <http://www.pco.org.hk>)

No	Narrative	Associated Explanatory Text
1	Purpose and manner of collection	Data should be collected in a fair and lawful manner. Data users should explain to data subjects what data is being collected and how it will be used
2	Accuracy and duration of retention	Personal data that has been collected should be kept accurate, up-to-date and for no longer than is necessary
3	Use	Data must be only be used for the specific or directly related purpose for which it was collected. Any other use is conditional on consent of the data subject
4	Security	Suitable security measures should be applied to personal data
5	Information availability	Data users should be open to the kind of data they store and what they use it for
6	Access	Data subjects have the right to access their personal data, to verify its accuracy and to request correction

Agranoff [1] defines (data) privacy as the 'claim of individuals, groups or institutions to determine for themselves when, and to what extent, information about them is communicated to others'. Charlesworth and Sewry [5] note that privacy includes considerations of the conflicts between society's right to know and individual's right to privacy. Nevertheless the right to privacy is not absolute. It

varies considerably in different cultures, as it has to be balanced by society's right to know. A detailed set of data privacy principles comes from the Privacy Commissioner's Office for Personal Data (PCOPD), Hong Kong and promulgated in December 1996. A summary of the six PCOPD data protection principles is reflected in Table 2.

These principles are designed to enshrine the reasonable rights and duties of both the data subject (the person described by the data) and the data users (those who possess the data). Sternberg [21] states there is a fundamental importance of accountability to ethical business conduct and good corporate governance. This researcher suggests that the tools which can be used to promote accountability is a code of conduct.

VI. eThekwini Municipality Environment

Following South Africa's second local government elections held on 5 December 2000, in terms of Proclamation 343 of 2000 (KwaZulu/Natal) dated 19 September 2000, the new Durban Metropolitan Uicity Municipality (DMUM) came into existence in the province of KwaZulu/Natal, South Africa. DMUM has subsequently been renamed to eThekwini Municipality. eThekwini Municipality comprises the former Durban Metropolitan Council (which includes the North Central and South Central Councils), the North Local Council, the South Local Council, the inner West City Council, the Outer West Local Council and the Umkomaas Transitional Local Council. For a discussion of ICT considerations in the eThekwini Municipality Area, see for example, [2, 3].

eThekwini Municipality employs approximately 22,000 employees. There are some 6,000 networked desktops (personal computers, thin clients and laptops) and electronic communication is via Novell's GroupWise (Client version 6.5). A total of 5,806 GroupWise accounts are in existence. There are approximately 1,500 Internet accounts utilising either Internet Explorer or Netscape Navigator web browsers. Given the magnitude of this ICT connectivity in terms of LANs and WANs and the potential for abuse and misuse of cyberotechnology by employees, there is thus a need to formulate a Code of Cyberethics for eThekwini Municipality.

The methodology for the formulation of the Code of Cyberethics for eThekwini Municipality is as follows:

- disseminate the authors' validated survey instrument (see extract in Table 3) to eThekwini Municipality employees who have Internet accounts;
- qualitatively and quantitatively analyse the responses received to completed survey questionnaires. From the scored responses, themes, patterns and trends will be synthesized. Sturgeon [23] notes that ethics is an appropriately empirical discipline;
- draft a proposed Code of Cyberethics based on eThekwini Municipality's (1) vision and mission; (2) moral and social values which the organisation wants reflected in all its activities; and (3) values that

reflect characteristics of the organisation's approach to achieving its mission. Particular attention is to be paid to cyberotechnology situations which appear to be genuinely problematic;

- when the Code of Cyberethics is breached, eThekwini Municipality's Standard Disciplinary Procedures must be followed. The Code of Cyberethics should form part of an eThekwini Municipality employee's Conditions of Service;
- present the proposed Code of Cyberethics to eThekwini Municipality's Stratman for ratification and adoption;
- incorporate the document in the City Manager's Standing Orders; and
- utilise an appropriate and effective communication mechanism for the adopted Code of Cyberethics to eThekwini Municipality employees.

Table 3. Extract of Ethics Statement Survey for eThekwini Municipality employees

(Acknowledgement: This extract is an adapted version of the Ethics Statement Survey by Alan Pleslak, Penn State University, Dunmore, PA, USA. Retrieved 10 October, 2005 from <http://wsistdevel.sn.psu.edu/ist/arp14/eths1/webform1.aspx>)

Please indicate your level of agreement/disagreement with the following information and communication technology related statements.

Strongly agree - Agree - Undecided - Disagree or Strongly disagree

I may copy someone else's software for my own personal use

- G Strongly agree
 G Agree
 G Undecided
 G Disagree
 G Strongly disagree

Please tick any of the following factors that affected your answer (you may tick more than one)

- G I believe that the potential harm done to others would be minimal
 G I believe that most view this activity as acceptable
 G I believe that any harm that would take place would be to people I do not know
 G I believe the number of people harmed would be minimal
 G I believe that negative effects of this action would occur a very long time from now
 G I believe that the potential harm done to others would be high
 G I believe that most view this activity as wrong
 G I believe that any harm that would take place would be to people I know
 G I believe the number of people harmed would be high
 G I believe that negative effects of this action would occur very soon

McCabe [14] found the existence of a corporate code of ethics was associated with significantly lower levels of self-reported unethical behaviour in the workplace. Ethics is not just about Codes – a code is only a small element of the process. Since eThekwini Municipality is about employees and structures (and not only documents), one needs to ensure that both employees and structures within which people

operate support ethical practices. It is argued by the authors that the approach described above will underscore Kant's rule based theory whereby the principle of an action that is being considered becomes the basis for everyone's action in eThekweni Municipality and all its employees will be willing to live in such a society as defined by the adopted Code of Cyberethics.

VII. Conclusion

Cleek and Leonard [6] state that 'emphasis should be placed on how the codes are communicated, enforced, and used, as a basis for strengthening the culture of the organization'. McClenahan [15] suggests that 'being consistent in policies and actions, rewarding ethical conduct, treating employees fairly, and providing better executive leadership' work best to reduce unethical conduct. A commitment to the moral treatment of employees is one of the preconditions for continued excellence [16]. Effective communication of the Code of Cyberethics to eThekweni Municipality employees can help eliminate situations wherein employees complain that they have not been made aware of corporate expectations regarding private Internet usage. Furthermore the development of a Code of Cyberethics will also ensure that its supply chain management and e-Business responds effectively and efficiently to citizens' needs and improve the communication process with citizens.

A proposed statement of core values and a corporate Code of Cyberethics that is effectively communicated and reinforced by strong eThekweni Municipality management support, enforcement processes that support employees when they are faced with difficult dilemmas should help eThekweni Municipality create and maintain an environment conducive to ethical decision-making. With such an environment, there is a strong likelihood that situational characteristics of a dilemma will cause an eThekweni Municipality employee to reach an unethical decision should be reduced.

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