



Information Ethics in Africa: Cross-cutting Themes



Edited by
Dennis Ocholla, Johannes Britz, Rafael Capurro and Coetzee Bester

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Foreword

Since the first African Conference on Information Ethics was held in February 2007, various academic institutions, government departments and private sector stakeholders have contributed to the expansion of the work and objectives set by the conference. These objectives not only included the growth of an awareness about Information Ethics in Africa, but also aimed to formally research the topic and teach the new knowledge in formal courses at universities. In support of the mentioned academic objectives, the Africa Network for Information Ethics (ANIE) and the Africa Centre of Excellence for Information Ethics (ACEIE) were structured to further support the UNESCO activities in WSIS on the African continent.

The ACEIE synchronises research and coordinates academic activities to enhance the awareness and knowledge of all stakeholders and role players on the matter of Information Ethics. The activities include workshops, conferences and public lectures, as well as books and articles. The ACEIE envisaged the compilation of this *Information Ethics in Africa: Cross-cutting Themes* to form an important part of the research activities on Information Ethics in Africa.

Information Ethics in Africa: Cross-cutting Themes was compiled by internationally recognised researchers and academics. These acclaimed researchers contributed chapters to the book on topics that are both practical and theoretical in terms of Information Ethics in an African context. The contributions were peer reviewed by two independent researchers (as well as members of the editorial committee) and authors were given the opportunity to revise their contributions based on the suggestions of the reviewers.

Information Ethics in Africa: Cross-cutting Themes is primarily aimed at researchers, but can also be used at postgraduate level (and some chapters even at senior undergraduate level).

We envisage this to be the first volume in a series of books on topics related to Information Ethics in Africa.

We thank the authors and all the ANIE conference participants who contributed to the dream and reality of this book. We also trust that both researchers and students will benefit from this source.

Professor Theo Bothma
ACEIE Management Committee and HOD of Information Science University of Pretoria
July 2013

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Chapter One

Understanding Information Ethics

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1. What is ethics?

Ethics can be defined as that branch of philosophy that studies human behaviour in terms of what is good or bad regarding relationships with themselves, others and their environment. Ethical actions are neither self-evident nor obvious and the same ethical action might be praised by some and at the same time be condemned by others. Take for example the different approaches to intellectual property rights. Some might argue that we need to protect the economic interests of publishers, while others interpret the current trends in intellectual property rights as a form of 'social terror'. This is mainly due to different worldviews, as well as the fact that we have a natural inclination to act out of self-interest or in the interests of people closest to us.

Ethical behaviour therefore does not come naturally; we need to learn it. People need to develop insight into their own self-interest and evidently their own moral contradictions. As information professionals we need to learn to think critically and to develop real concerns for the people with whom we work and those we serve. We need to develop not only intellectual, but also emotional abilities to recognise and respect the human dignity and rights of others (Elder & Paul, 2006).

Ethics is also not subjective and relative in nature. It is based on reasoning and moral justification and open to critical evaluation. Ethical reasoning moves furthermore beyond the mere statement of beliefs and opinions. It is also underpinned by a philosophical analysis in which we examine the very foundation of our moral beliefs and opinions. Johnson (2003:26-27) refers to our ethical beliefs as an argument for a claim – and that we put our argument on the table to be evaluated and then see whether our argument does indeed support the moral claim we have made. Our arguments are based on moral principles such as the right of freedom of expression or the right of access to information. We use these principles to articulate our arguments based on the moral claims we make. Ethical principles are not absolute in terms of their applications and claims. We can for example claim that individuals must have the right of freedom of expression only in so far as it does not harm other people.

It is also important to distinguish between morals, ethics and law. Morals refer to the customs and traditions of societies and ethics is the critical reflection on these morals. Laws are those norms that are formally approved by governing bodies (local, national and international) and mostly reflect the morals of a given society (Capurro, 2006).

2. Meta-ethics, descriptive and prescriptive ethics

The main purpose of this part of the chapter is to introduce readers to some traditional ethical theories and concepts and thereby create a useful ethical vocabulary that will provide some background information. It does not claim to be a thorough theoretical analysis.

The first distinction is between meta-, descriptive and prescriptive or normative ethics. Meta-ethics is concerned with the origin of ethical norms and principles and also with the roots and

meaning of the ethical concepts we use. It will for example investigate what we mean by the notion of 'good'.

Descriptive ethics on the other hand studies the factual statements about the moral behaviour of people and does not intend any moral claims about what is ethically right or wrong. This is mostly done based on empirical evidence such as observations or interviews. For example: "Most people using computers in country X make use of illegal software". This is not intended to be a value judgment but is merely based on the observation of empirical facts.

On the other hand, prescriptive ethics does make moral judgments about the moral behaviour of people. Prescriptive ethics is based on ethical theories and bases these moral claims on certain principles and norms. That is why prescriptive ethics is also known as normative ethics. Prescriptive ethics is sub-divided into three categories, namely 1) professional ethics, 2) personal ethics and 3) social ethics. Professional ethics focuses on the ethical issues relevant to professional relationships between people. The most common application of professional ethics is in the workplace. The way librarians treat the privacy of patron information serves as a good example of professional ethics. Personal ethics, on the other hand, deals with ethical issues between people as it pertains to their personal lives, for example the relationship between wife and husband. Social ethics has a much broader agenda and makes moral claims on society as a whole. The ethical challenges associated with universal access to information services constitute a good example of social ethics.

Prescriptive ethics is based on the assumption that moral behaviour is based on a single rule (for example 'you shall not steal') or a set of principles. Three ethical theories can be distinguished. These are virtue theories, duty theories and consequentialist theories (Encyclopaedia of Philosophy).

Virtue theories have their roots in ancient Greek philosophy (Plato, Aristotle) and stress the importance of the development of good habits/character or virtues such, as wisdom, courage, temperance and justice. These are the four virtues identified by Plato. Other virtues include sincerity and fairness. The theory argues that these virtues can and should be learned from a young age and, once acquired, will naturally guide ethical behaviour.

Duty theories are derived from the Greek word 'deon' which can be translated as duty or obligation. As a theory it operates on the principle that we have a duty and obligation not to harm or kill others, to care for people and to preserve our environment. There is a very close relationship between human rights and duty theories. A right can be defined as the claim we have towards others not to harm nor to kill us. This implies that the rights I have become the duty of others. The British philosopher John Locke is one of the best known exponents of a duty theory based on the recognition of our human rights. The German philosopher Immanuel Kant is another well-known exponent of duty-based theory. For him our most fundamental duty is never to treat people merely as a means to an end, but to treat each other person as indeed an end. He refers to this principle as the 'categorical imperative'. Based on this principle it would be wrong to steal another person's information. Doing so, according to Kant, implies that I treat the person from whom I stole the information merely as an end to my own economic advantage. In Kant's opinion we cannot ethically 'use' other people as instruments to achieve our own goals. We always have to recognise and respect the inherent value and dignity of other people.

Consequentialist theories state that a moral action must be solely determined by the result or the consequence of a particular action. If the outcomes of a moral action are good, then such an action can be viewed as morally good and appropriate. The British philosopher Jeremy Bentham is a well-known exponent of this theory. One critical question is, of course: who should benefit from the outcome? Within this tradition there are three possible answers or approaches. The first approach is known as 'ethical egoism'. According to this approach, the person acting should be the sole beneficiary. The second approach focuses on the benefits of the other, and is known as 'ethical altruism', and the third approach (utilitarianism) takes all the role players into consideration.

3. Information Ethics

Information Ethics, as applied ethics, is that field of study that investigates the ethical issues arising from the life cycle of information, including the generation, gathering, organisation, retrieval, distribution and use of information. As an interdisciplinary field of study it relates among others to the fields of computer science, library and information science, philosophy, communication science, journalism and mass media. The focus areas include the following: the right to privacy, the right of access to information, the right to intellectual property and the quality of information.

3.1. Historical development of Information Ethics

According to Capurro (2006), the study of the historical development of Information Ethics within different cultural traditions is still an open task. Not much is for example known of the development of this field in Africa and Asia. In this text the focus is on the development of Information Ethics in the Western tradition. A few comments on recent developments in Africa will also be made.

The Western tradition of Information Ethics is based on three core ideas, namely 1) freedom of speech, 2) freedom of access to information and 3) freedom of the press. Western Information Ethics can be traced back to the oral tradition of the ancient Greeks where freedom of speech and freedom of expression were highly valued in the agora (the market place). Plato, with the publication of his dialogues, introduced the transition from an oral to a written culture. Under the influence of the Christian tradition a true book culture was developed focusing on the Bible and using Latin as the official written language. Interpretation and communication of the text were limited to members of the clergy. Freedom of access to information and communication of ideas was therefore still mainly applied in written form and limited to the religious leaders of the time. The invention of the printing press by Johannes Gutenberg in 1452 as well as the translation and distribution of the Bible into German by among others Johannes Mentelin and the reformer Martin Luther (1534) changed this situation and introduced the notion that everyone can have access to information as well as the freedom to share ideas with others, not only in an oral but also in written and printed forms. After the French revolution, libraries of the nobility and churches were made public and allowed more people to gain access to information and to share their ideas. This laid the cornerstone for what later became the principle of the freedom of the press.

A direct consequence of the invention of the printing press and subsequent widening of literacy levels of people in Europe was the introduction of copyright in the 18th century in Britain. This was mainly in reaction to the monopolies held by printers. Although initially invented to provide authors some form of legal protection for their works for a short period of time, copyright soon expanded its scope and application to become an international legal concept, known as intellectual property, regulating not only the creation of information products, but also the right of access to them and copying and distributing them in almost all formats. The introduction and development of intellectual property rights have profoundly changed the very nature of freedom of access to information.

The acceptance of the Universal Declaration of Human Rights (UDHR) by the United Nations (UN) in 1948 articulated these three core information principles as universal and basic human rights for the first time. It also lays down the groundwork for the role of communication in society as a whole. This is specifically true of Articles 18 and 19 dealing with the right of freedom of thought, conscience and religion (Art. 18) and the right to freedom of opinion and expression (Art. 19) respectively. Since then, most democracies have embedded these principles into their own constitutions and/or legislation. Since the late 1960s the right to communicate has also become a central concern for the UN. This is the case with the purpose of expanding the spheres of both freedom of expression and access to information by including the right to communicate as a basic human right. The focus of this

right is not only on the ability to communicate, but also to have access to communication media. Although efforts to add this right to the UDHR have been unsuccessful so far, the debate has gained momentum at the two recent World Summits on the Information Society (WSIS) (2003, 2005).

3.2. Brief overview of the development of an African Information Ethics

African Information Ethics, in other words, an ethical reflection by Africans on the information ethical problems facing Africa, is in many ways still in its infancy. Not many African philosophers reflect from their philosophical traditions on these issues and Information Ethics does not form part of the curriculum at most universities in Africa. Aggravating this problem is the fact that where Information Ethics is taught, it is mostly done within the traditional Western philosophical traditions. This problem became even more apparent in October 2004 during an international symposium on Information Ethics which was held in Karlsruhe, Germany. It was initiated by Rafael Capurro and organised by the International Center for Information Ethics (ICIE). The sponsor was the Volkswagen Foundation in Germany. Leading international experts in the field of Information Ethics were invited to participate and it was a first of its kind in the world. There were only a few Africans in attendance, most of them expatriates. There were of course many reasons why the African scholars were not present, some relating to the mere fact that they are unknown to other international scholars. Lack of funding to attend international events was also a stumbling block, and last but not least, not much research had been done on the African continent on this very important topic. It seems, in terms of philosophical reflections and scholarly publications, that African scholars did not have much to offer their global counterparts on the ethical challenges facing Africa in the era of globalisation.

Evolving from this it became clear that there is an urgent need to integrate leading African scholars into the international debate on the ethical issues facing Africa as part of the global information society. This led to the organisation of the first ever Africa Information Ethics conference which was held in Pretoria, South Africa, in February 2007. Scholars from more than 21 countries, most of them from Africa, attended. The theme of the conference was very appropriate: 'The joy of sharing knowledge'. The topics addressed at the conference included the following:

- The digital divide
- Information poverty
- Information corruption
- Access to information
- Privacy
- Intellectual property rights

4. The impact of modern information and communication technologies on the ethical discourse

When discussing Information Ethics, it is important to reflect on the impact that modern information and communication technologies (ICT) have on the ethical debate. The development of modern ICT, and more particularly since the 1960s, has not only profoundly changed the information and knowledge landscape, but as a result has also fundamentally impacted the global field of Information Ethics.

Preston defines these new technologies as "[...] the cluster or interrelated systems of technological innovations in the fields of microelectronics, computing, electronic communications including broadcasting and the Internet" (2004:35) and includes the Internet, digital photography, cell phones and the World Wide Web. These technologies have radically changed our way of living (at least for people in the developed world) and the way in which we do things. As such they are seen as ubiquitous, invading most facets of our existence. They have created a new and unprecedented form

of dependence, introducing new power relationships. Most organisations and institutions around the world rely on some form of ICT for their daily operations, and ICT has become the default technology for most of the socio-economic activities of those living in the First World. Organisational changes and benefits that it has brought about are no longer in question (Introna, 2005).

According to Freeman and Louca (2002), the impact of these technologies arises from three of their characteristics. In the first place, ICT is an enabling technology that has not only become instrumental in most of our activities, but also contributes to further technological development and changes. Secondly, it has grown, in terms of its capacity, exponentially over the last couple of years; and thirdly, it has become cheaper, making it more affordable and accessible to nearly everyone. As such, the introduction of new and modern ICT opens up new possibilities for libraries and other information agencies. The most important of these is the digitisation and consequent manipulation of information. This has far-reaching implications, not only for the different information-based activities pertaining to the life cycle of information, but also with regard to the ethical issues relating to these information-based activities. The digitisation of information allows, for the first time, the unbundling of information from its original physical carriers, such as objects (e.g. an airline ticket), paper and other print material in a different and unique way that previous ICTs, including writing and printing, were not able to do. Pre-digital information technologies did not have the ability to simultaneously reach millions of people and allow synchronic interactivity and the customisation of needs. Due to modern ICT, digitised information has become interlinked (hypermedia), can 'travel by itself' at nearly zero cost, and can reach more people in an interactive way. Examples include e-mail, webcam technologies, as well as interactive TV. There has indeed been a move from "textuality (writing and printing) to multimediality" (Linguist, 1998:6). It is within this context that philosophers such as Rucker (1988) and De Mul (2003) remark that "everything has become information". Modern ICT, including the camera and other digital technologies like the computer, has therefore permanently established our global information-based world in the 20th century. These technologies allow for the mass customisation of users' needs, including, especially, information needs (Evans & Wurster, 1997). A good example of the ability to customise information according to users' needs is the online booking of airline tickets where people can select their seats as well as meals online; indeed, a customer without access to ICT is at a significant disadvantage in this example. Service costs are in many cases higher for those who do not have access to the Internet – a good example is the banking industry. In a country such as South Africa, Internet banking is encouraged by making 'face-to-face' banking more expensive. This has introduced a new form of 'information exclusion and discrimination'.

Modern ICT has therefore profoundly changed the notions of privacy and of access to information. Access to information is no longer limited to accessing the ideas of others or freedom of expression. It has also become a socio-economic right that opens the opportunity for people to participate (online) in the various socio-economic and political activities. It also introduces new asymmetric information relationships whereby people (in terms of their personal and private information) are being 'unbundled' and observed without their knowing it.

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Chapter Two

Information Ethics in the African Context¹

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1. Introduction

Since the second half of the twentieth century, computer scientists like Norbert Wiener (1918 - 1962) and Joseph Weizenbaum (1928) have raised public awareness of the societal challenges of computer technology. In the beginning, the academic discussion was focused on the responsibility of computer professionals. However, for scientists like Wiener and Weizenbaum, the impact of computer technology was understood to be something that concerned society as a whole.

Half a century after Wiener's seminal work, the World Summit on the Information Society (WSIS) developed the vision:

[...] to build a people-centred, inclusive and development-oriented Information Society, where everyone can create, access, utilise and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights (UDHR) (WSIS, 2003).

The WSIS proposed a political agenda, namely:

[...] to harness the potential of information and communication technology to promote the development goals of the Millennium Declaration, namely: the eradication of extreme poverty and hunger; achievement of universal primary education; promotion of gender equality and empowerment of women; reduction of child mortality; improvement of maternal health; to combat HIV/AIDS, malaria and other diseases; ensuring environmental sustainability; and development of global partnerships for development for the attainment of a more peaceful, just and prosperous world (WSIS, 2003).

The Geneva Declaration of Principles states:

56. The Information Society should respect peace and uphold the fundamental values of freedom, equality, solidarity, tolerance, shared responsibility, and respect for nature.

57. We acknowledge the importance of ethics for the Information Society, which should foster justice, and the dignity and worth of the human person. The widest possible

¹ This contribution is based on the following papers: [1] Information Ethics for and from Africa. Keynote address at the first Africa Information Ethics Conference (Pretoria 2007), published in the *International Review of Information Ethics (IRIE)*. Online: <http://www.i-r-i-e.net/issue7.htm> and reprinted in the *Journal of the American Society for Information Science and Technology*, 59 (7): 19, 2008. [2] Digital Ethics, presented at the 2009 Global Forum on Civilization and Peace organised by the Academy of Korean Studies, Seoul 2009. Published by The Academy of Korean Studies (ed.), 2009 *Civilization and Peace*, Paju: Jimoondang 2010, pp. 2003-2014. Online: <http://www.capurro.de/korea.html>; [3] Information Ethics in Africa. Past, present and future activities (2007-2010). Report presented at the WSIS Forum 2010, Geneva, May 11, 2010. Online: http://www.capurro.de/wsis2010_africa_infoethics.html.

protection should be accorded to the family and to enable it to play its crucial role in society.

58. The use of ICTs and content creation should respect human rights and fundamental freedoms of others, including personal privacy, and the right to freedom of thought, conscience, and religion in conformity with relevant international instruments.

59. All actors in the Information Society should take appropriate actions and preventive measures, as determined by law, against abusive uses of ICTs, such as illegal and other acts motivated by racism, racial discrimination, xenophobia, and related intolerance, hatred, violence, all forms of child abuse, including paedophilia and child pornography, and trafficking in, and exploitation of, human beings (Geneva Declaration of Principles, 2003).

The participants of the Tunis summit shared the Geneva vision with the following words:

2. We reaffirm our desire and commitment to build a people-centred, inclusive and development-oriented Information Society, premised on the purposes and principles of the Charter of the United Nations, international law and multilateralism, and respecting fully and upholding the Universal Declaration of Human Rights, so that people everywhere can create, access, utilize and share information and knowledge, to achieve their full potential and to attain the internationally agreed development goals and objectives, including the Millennium Development Goals (Tunis Commitment, 18 November, 2005).

The economy and public policy of modern societies rely heavily on digital networks. The importance of Information and Communication Technologies (ICTs) for the economy became obvious with the burst of the 2000 dot com bubble and was one of the main factors leading to the recent world financial and economic crisis. Beyond the individual responsibility of politicians, bankers and managers, there is a systemic issue that has to do with the digitalisation of financial and economic communication and information. Digital capitalism was and still is able to bypass national and international law, control and monitor institutions and mechanisms, as well as codes of practice and good governance, which lead to a global crisis of trust not only within the system, but also with regard to the system itself. In order to develop a people-oriented and sustainable world economic system and national and international monitoring agencies, as well as international law, self-binding rules are needed in order to establish a sustainable system based on fair play.

ICT has a strong impact on public policy, leading to a transformation of 20th century democracy into a more participatory one. Interactive media weakens the hierarchical one-to-many structure of traditional hierarchic mass-media, giving individuals the capacity to become senders of messages and not just receivers of information. ICTs are widely used for political participation and grass-roots protest groups, as well as by liberation and peace movements. By the same token, online social networks make possible new structures of political surveillance, censorship and control of individuals and whole societies (Coenen et al., 2012). We live in message societies (Capurro & Holgate, 2011), where the Internet has become a local and global basic social communication infrastructure. Freedom of access needs to be brought to the forefront as it is a fundamental ethical principle similar to freedom of speech and freedom of the press. Some of the rights stated in the Universal Declaration of Human Rights, such as the right to freedom of thought, conscience and religion (Art. 18), the right to freedom of opinion and expression (Art. 19), and the right to peaceful assembly and association (Art. 20), need to be explicitly interpreted and defined, taking the new and unique affordances of digital media into consideration. Lawrence Lessig envisaged a situation in which the universality of cyberspace is endangered by local codes of the market, the software industry, the laws of nation states, and moral traditions. He writes:

If we do nothing, the code of cyberspace will change. The invisible hand will change it in a predictable way. To do nothing is to embrace at least that. It is to accept the changes that

this change in code will bring about. It is to accept a cyberspace that is less free, or differently free, than the space it was before (Lessig, 1999:109).

A free Internet can foster peace and democracy, but it can also be used for manipulation and control. For this reason, I consider it a necessity to strive for a future Internet governance regime on the basis of intercultural deliberation, democratic values and human rights. I advocate for the expansion of human rights to include the rights of non-human life and nature (Capurro, 2008a). The present ecological crisis is a clear sign that we have to change our lives in order to become not masters, but keepers of our natural environment.

2. Information Ethics

Societal debates on ethical issues have rapidly increased, particularly since the rise of the Internet. I define Information Ethics in a narrower sense as dealing with the impact of digital ICTs on society and the environment, as well as with ethical questions about the Internet digital information and communication media (media ethics) in particular. Information Ethics, in a broader sense, deals with information and communication, including, but not limited to, digital media. The main topics of Information Ethics are: intellectual property, privacy, security, information overload, digital divide, gender discrimination, and censorship (Ess, 2009; Himma & Tavani, 2008). They are objects of ethical scrutiny not only on the basis of universal rights and principles, but also with regard to cultural differences, as well as historical and geographical singularities leading to different kinds of theoretical foundations and practical options. This field of ethics is called intercultural Information Ethics (Capurro, 2008; Capurro et al., 2007; Hongladarom & Ess, 2007; Capurro, 2006). It deals, for instance, with the question of how human cultures can flourish in a global digital environment while avoiding uniformity or isolation. The idea of intercultural Information Ethics emerged in October 2004 during the international symposium 'Localizing the Internet. Ethical Issues in Intercultural Perspective' (Capurro et al., 2007).

3. Privacy

An example of the relevance of the intercultural approach concerns the concept of privacy from Western and Buddhist perspectives. While in Western cultures privacy is closely related to the self, Buddhism relies on the tenet of non-self; therefore the social perceptions, as well as the concept of privacy, are different (Nakada & Tamura, 2005; Capurro, 2005; Capurro et al., 2013). However, a justification of privacy from a Buddhist perspective, based on the concept of compassion, seems possible and plausible (Hongladarom, 2007).

4. Surveillance

Digital surveillance of public spaces is supposed to ensure safety and security facing unintentional or intentional dangers, for instance from criminal or terrorist attacks. But, at the same time, it threatens the autonomy, anonymity and trust that build the basis of democratic societies. New technologies allowing the tracking of individuals through Radio-frequency Identification (RFID) (or ICT implants are similarly ambiguous with regard to the implicit dangers and benefits, therefore they need special scrutiny and monitoring (ETICA, 2011; ETHICBOTS, 2008; EGE, 2005 and 2012).

5. Robotics

Recent advances in robotics show a wide range of applications in everyday lives beyond their

industrial and military applications. Robots are mirrors of ourselves. What concepts of sociality are conceptualised and instantiated by robotics? An intercultural ethical dialogue – beyond the question of a code of ethics to become part of robots to make them ‘moral machines’ (Wallach & Allen, 2009) – on human-robot interaction is still in its infancy (Capurro & Nagenborg, 2009).

6. Information overload

The issue of information overload has a major impact in the everyday lives of millions of people (Capurro, 2005b). We lack a systematic pathology of the information society (Capurro, 2012). Similarly, the question of Internet addiction, particularly in young generations, is worrisome. For example, there is a growing need for cell-phone-free times and places, in order to protect ourselves from the necessity of being permanently available.

7. Digital divide

The so-called digital divide should not be considered just a problem of technical access to the Internet, but an issue of how people can better manage their lives using new interactive digital media while avoiding the dangers of cultural exploitation, homogenisation, colonialism, and discrimination. Individuals, as well as societies, must become aware of different kinds of ‘assemblages’ between traditional and digital media, to be able to relate them to their needs, interests and cultural backgrounds (Ong & Collier, 2005; Scheule et al., 2004). The vision of an inclusive Information Society, as developed during the WSIS, must be global and plural at the same time. Concepts like hybridisation or polyphony are ethical markers that should be taken into account when envisaging new possibilities of freedom and peace in a world shaped more and more by digital technology.

8. Electronic waste

Electronic waste (e-Waste) has become a major issue of digital ethics (Feilhauer & Zehle, 2009). It deals with the disposal and recycling of all kinds of ICT devices that already, today, have devastating consequences on humans and the environment, particularly when exported to Third World countries. Issues of sustainability and global justice should be urgently addressed, together with the opportunities offered by the same media to promote better shelter, reduce hunger and combat diseases.

The ethical reflection on these issues belongs to a theory on the art of living, following some paths of thought by the French philosopher Michel Foucault, who distinguishes the following kinds of technologies: ‘technologies of production, which permit us to produce, transform, or manipulate things, technologies of sign systems, which permit us to use signs, meanings, symbols, or significations, technologies of power which determine the conduct of individuals and submit them to certain ends or domination, an objectivising of the subject’, and ‘technologies of the self, which permit individuals to effect by their own means or with the help of others a certain number of operations on their own bodies and souls, thoughts, conduct, and way of being, so as to transform themselves in order to attain a certain state of happiness, purity, wisdom, perfection, or immortality’ (Foucault, 1988:18). How can we ensure that the benefits of information technology are not only distributed equitably, but that they can also be used by the people to shape their own lives? (Capurro, 2005a).

In a report on *Being Human: Human-computer interaction in the year 2020*, the result of a meeting organised by Microsoft Research in 2007, the editors write:

The new technologies allow new forms of control or decentralisation, encouraging some forms of social interaction at the expense of others, and promoting certain values while dismissing alternatives. For instance, the iPod can be seen as a device for urban

indifference, the mobile phone as promoting addiction to social contact and the Web as subverting traditional forms of governmental and media authority. Neural networks, recognition algorithms and data-mining all have cultural implications that need to be understood in the wider context beyond their technical capabilities. The bottom line is that computer technologies are not neutral – they are laden with human, cultural and social values. These can be anticipated and designed for, or can emerge and evolve through use and abuse. In a multicultural world, too, we have to acknowledge that there will often be conflicting value systems, where design in one part of the world becomes something quite different in another, and where the meaning and value of a technology are manifest in diverse ways. Future research needs to address a broader, richer concept of what it means to be human in the flux of the transformation taking place (Harper, Rodden, Rogers & Sellen, 2008:57).

This remarkable quote from a meeting organised not by anti-tech humanists, but by one of the leading IT companies, summarises the main present and future tasks of digital ethics as a critical interdisciplinary and intercultural on-going reflection on the transformation of humanity through computer technology. Humanity is experiencing itself, particularly through the digital medium, as a totality or system of interrelations. Who are we and what do we want to be as humanity? This question asks for a historical, not a metaphysical, answer. A negative vision of such unity is balkanisations and imperialisms of all kinds, including digital ones.

On the occasion of the presentation of 'In your hands: A Guide for Community Action for the Tenth Anniversary of the Universal Declaration of Human Rights' on 27 March 1958 at the United Nations, Eleanor Roosevelt said:

Where, after all, do universal human rights begin? In small places, close to home – so close and so small that they cannot be seen on any maps of the world. Yet they are the world of the individual person; the neighbourhood he lives in; the school or college he attends; the factory, farm, or office where he works. Such are the places where every man, woman, and child seeks equal justice, equal opportunity, equal dignity without discrimination. Unless these rights have meaning there, they have little meaning anywhere. Without concerned citizen action to uphold them close to home, we shall look in vain for progress in the larger world (Roosevelt, 1958).

Sixty years later, we are much more aware of how important this declaration was and how difficult it is to put into practice – to make human rights come alive 'in small places, close to home'. This Declaration was not only the right ethical and political answer to the atrocities of World War II, but it was also the start for a new kind of international policy based on common ethical values and principles facing the challenges of a digitally globalised world. Nevertheless, today we are facing additional global challenges expressed in the UN Millennium Development Goals (MDG), namely:

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality and empower women
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS, malaria and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development

These goals begin 'in small places, close to home' too. They can be achieved only if we continue and expand the freedom campaign towards nature, i.e. if we expand the goals of human rights to nature as well. Digital globalisation should make us aware of the human interplay with each other in a

common world instead of making the digital perspective over our lives, and over reality, a kind of digital metaphysics or (political) ideology. I call this relativisation of the digital perspective 'digital ontology' (Capurro, 2006).

Who are we in the digital age? As human cultures become digitally hybridised, this process affects social life in all its dimensions, as well as our interplay with nature. The key task of Information Ethics is to make us aware of the challenges and options for individual and social life design. The digital medium is an opportunity for the subjects of the 21st century to transform themselves and their relations in and with the world (Capurro, 2005a; 1996). This implies allowing each other to articulate ourselves in the digital network, while taking care of historical, cultural and geographical singularities. An ethical intercultural dialogue is needed to understand and foster human cultural diversity, therefore we must look for common ethical principles so that digital cultures can become a genuine expression of human liberty and creativity. In the next section I deal briefly with the history of Information Ethics in Africa.

9. Information Ethics in the African context

Information Ethics in Africa is a young academic field. Not much has been published on the role that African philosophy can play in thinking about the challenges arising from the impact of ICTs on African societies and cultures (Brunet et al., 2004; Okpaku, 2003). An important landmark was the first African Conference on Information Ethics, which was held in Pretoria, 3 - 5 February 2007, under the auspices of United Nations Educational Scientific and Cultural Organisation (UNESCO). The conference was sponsored by the South African Government and the Department of Communications and organised by the University of Wisconsin-Milwaukee, the University of Pretoria, the University of Pittsburgh, and the International Center of Information Ethics. The following issues were discussed²:

Topic 1: Foundations of African Information Ethics (Top facilitator: Dennis Ocholla, South Africa)

- Respect for human dignity – information-based rights
- Freedom of expression
- Freedom of access to information
- Information wrongdoings, information corruption, information injustice

Topic 2: Cultural Diversity and Globalisation (Top facilitator: Peter Kanyandago, Uganda)

- Protection and promotion of indigenous knowledge
- Global security, human security, privacy, transparency
- E-Government and related topics
- Cultural diversity and development

Topic 3: Development, Poverty and ICT (Top facilitator: Kingo Mchombu, Namibia)

- Using ICTs for a better life in Africa: case studies
- Internet and exclusion (socio-political and economic exclusion)
- North-South flow of information and information imperialism
- Flight of intellectual expertise from Africa

The conference produced tangible results such as the Tshwane Declaration on Information Ethics, which was adopted by the participants of the conference as a genuine African contribution to the UNESCO Code of Ethics for the Information Society, and the creation of the African Network for Information Ethics (ANIE), which gives African scholars a platform to exchange and realise their ideas in the field.

On 6 - 7 September 2010, the second African Conference on Information Ethics was held in Botswana and dealt with teaching Information Ethics in Africa, the current status of Information Ethics,

² The proceedings were published in the International Review of Information Ethics (IRIE) <http://www.i-r-i-e.net/issue7.htm>.

and the opportunities and challenges. It was organised by the University of Botswana, the University of Zululand, the University of Pretoria, the University of Wisconsin-Milwaukee, and the International Center of Information Ethics, under the auspices of UNESCO, and co-sponsored by UNESCO, the University of Botswana, the University of Wisconsin-Milwaukee, the South African Government (Department of Communications) and the software company SAP.

On 5 - 7 September 2012, the third African Conference on Information Ethics was held in Pretoria (South Africa). It dealt with Online Social Networks (OSN) in Africa (Capurro, 2012a). The conference was preceded by two workshops, one from 2 - 3 June 2012, taking place in Nairobi (Kenya) on information for sustainable development and another one on 3 - 4 September 2012 in Pretoria, dealing with basic concepts of Information Ethics.

Most research on ICT, from an ethical perspective, takes its point of departure from Western philosophy. Let us briefly review some recent works on African philosophy that are potentially relevant to the development of Information Ethics in Africa. African oral and written traditions of philosophy have a long and rich past, going back as far as 3000 BC, which includes the Egyptian Ma'at-Philosophy of ancient Egypt; the Afro-Hellenic tradition of Greek and Roman Antiquity and the early Middle Ages (Amasis, Plotinus, Philon, Euclid, Apuleius, Tertullian, Augustine); the Afro-Islamic tradition (Al-Farabi, Averroes, Ibn Battuta); the colonial break with contributions in the Amharic language (Zara Yoqob, WaldaHawat, Amo, Hannibal); the anti-colonial philosophy (DuBois, Garvey, Césaire, Senghor); the ethno-philosophy of the 70s (Kagame, Mbiti); Afrosocialism (Nkrumah, Nyerere); universalistic theories (Houtondji, Wiredu, Towa), and contemporary representatives of different schools such as hermeneutics (Okere, Ntumba, Okonda, Serequeberhan, Kinyongo); Sage philosophy (Oruka, Kaphagawani, Sogolo, Masolo) (Oruka & Masolo, 1983); and feminism (Eboh, Oluwole, Boni, Ngoyi); to mention just a few names and schools. These traditions have been analysed by Jacob Mabe in his book on oral and written forms of philosophical thinking in Africa (Mabe, 2005:276-278; Ruch & Anyanwu, 1981; Neugebauer, 1989; Serequeberhan, 1996). He also edited the first comprehensive lexicon on Africa in German (Mabe, 2004), with more than 1000 keywords, including entries on 'media' and the 'Internet' (Tambwe, 2004a).

The Department of Philosophy at the University of South Africa published a comprehensive reader entitled *Philosophy from Africa*, which was edited by Pieter Coetzee and Abraham Roux (Coetzee & Roux, 2002). Of the 37 contributors, 33 were Africans speaking for themselves on the topical issues of decolonisation; Afrocentrism in conflict with Eurocentrism; the struggle for cultural freedoms in Africa; the historic role of black consciousness in the struggle for liberation; the restitution and reconciliation in the context of Africa's post-colonial situation (Eze, 1997); justice for Africa in the context of globalisation; the pressures on the tradition of philosophy in Africa engendered by the challenges of modernity; the reconstitution of the African self in its relation to changing community; the African epistemological paradigm in conflict with the Western, and the continuity of religion and metaphysics in African thought. The second edition contains themes on gender, race and Africa's place in the global context. Although the book addresses a broad variety of themes, there is no contribution specifically dealing with information and communication technologies from an ethical or even philosophical perspective, although Paulin Houtondji does address the problem of "Producing Knowledge in Africa Today" (Houtondji, 2002). The terms 'information' and 'communication' are absent, and are not even listed in the index.

Is there a specific African philosophic and ethical perspective with roots in African languages, social experiences and values as analysed, for instance, by John Mbiti (1969), Chyme Gyekye (1996), Mutombo Nkulu (1997), Luke Mlilo and Nathanael Soédé (2003) and Jean-Godefroy Bidima (2004)? Yes, there is, if we follow Mogobe Ramose's work (Coetzee & Roux, 2002) that bears the title 'Globalization and ubuntu' (Ramose, 2002), but also, for instance, Kwasi Wiredu's contribution of 'Conceptual decolonization in African culture' through an analysis of African languages and

terminology (Wiredu, 1995; Weidtmann, 1998).

I am not making a plea for ethnophilosophy as criticised, for instance, by Houtondji (1983), but for a dialogue between both cultures and languages, and the global and the local as envisaged in the 2004 symposium of the International Center for Information Ethics. My perspective concerning Information Ethics in the African context is close to Wiredu's and Oladipo's "third way in African philosophy" (Oladipo, 2002), as well as to Oruka's "sage philosophy" (Oruka, 1990). A critical analysis of the oral and/or written African traditions is needed, as done, for instance, by Anthony Appiah in his article for the Routledge Encyclopedia of Philosophy (Appiah, 1998). We can explicitly acknowledge modern reason without assuming that its Western manifestations are inviolable, particularly when they serve purposes of colonisation or oppression. The ethical discourse is located between the particular and the universal. Following the Kantian tradition, ethical discourse aims at universality, but it must be aware, with Aristotle, that human action is contingent and subject to different interpretations and applications based on power plays. It envisages the good and seeks a humane world free from the dogmatic fixations of norms that merely reflect, implicitly or explicitly, particular points of view. In other words, ethics reflects on the permanent flow of human life and its modes of empirical regulation that make possible, on the basis of mutual respect, manifestations of humanity in unique and multiple forms. We are all equal, and we are all different.

According to Ramose, ubuntu is "the central concept of social and political organisation in African philosophy, particularly among the Bantu-speaking people. It consists of the principles of sharing and caring for one another" (Ramosé, 2002:643). Ramosé discusses two aphorisms "to be found in almost all indigenous African languages", namely: 'Motho ke motho ka batho' and 'Feta kgomo tshware motho'. The first aphorism means that "to be human is to affirm one's humanity by recognising the humanity of others and, on that basis, establish humane, respectful relations with them. Accordingly, it is ubuntu which constitutes the core meaning of the aphorism". The second aphorism means "that if and when one is faced with a decisive choice between wealth and the preservation of life of another human being, then one should opt for the preservation of life" (Ramosé, 2002:644). Following this analysis we can ask: what is the role of ubuntu in African Information Ethics? How is the intertwining of information and communication technology with the principles of communalism and humanity expressed in aphorisms such as 'Motho ke motho ka batho', which can be translated as 'people are people through other people'? What is the relation between community and privacy in an African Information Society? What kind of questions do African people ask about the effects of information and communication technologies in their everyday lives?

One of the few detailed analyses of the relationship between ubuntu and Information Ethics or, more precisely, between ubuntu and privacy, was presented by H.N. Olinger, Johannes Britz and M.S. Olivier at the sixth International Conference of Computer Ethics: Philosophical Enquiry (CEPE). They write:

The African worldview driving much of African values and social thinking is 'Ubuntu' (Broodryk, 2004). The ubuntu worldview has been recognized as the primary reason that South Africa has managed to successfully transfer power from a white minority government to a black majority-rule government without bloodshed (Murithi, 2000). The South African government will attempt to draft a Data Privacy Bill and strike an appropriate balance within the context of African values and an African worldview (Olinger et al., 2005:292).

According to the authors, ubuntu ethical principles have been applied in South Africa in the following areas:

- Politics (the African Renaissance)
- Business (through collective learning, teamwork, sustainability, a focus on local community, and an alternative to extractive capitalism)

- Corporate governance (through the attitudes of fairness, collectiveness, humility)
- Restorative justice (through the use of dialogue, collective restitution and healing)
- Conflict resolution and reconciliation (through the Ubuntu ethos of the Truth and Reconciliation Commission, TRC) (Olinger et al., 2005:295)

The authors emphasise the specificity of the ubuntu worldview as a community-based mindset, opposed to Western libertarianism and individualism but close to communitarianism. For more on this topic, the Nigerian philosopher Simeon Onyewueke Eboh has written a profound study on *African Communalism* (Eboh, 2004). Olinger, Britz and Olivier critically remark that the population of Southern Africa has to rediscover ubuntu because many have not experienced it, and also because many live in two different cultures – practising ubuntu in the rural environments and Western values in the urban environments. If this is the case not only in South Africa, but in other African countries, then there is a great deal of theoretical and practical work to be done. The authors translate the aphorism ‘Umuntu ungununtu ngabanye abantu’ (Nguni languages of Zulu and Xhosa) as ‘A person is a person through other persons’ (Olinger et al., 2005:293). According to Broodryk (2002), ubuntu is an African worldview “based on values of intense humanness, caring, respect, compassion, and associated values ensuring a happy and qualitative human community life in a spirit of family”. This means that personal privacy – being a key ethical value in Western countries – might be considered as less important from an ubuntu-based perspective, even if we accept that there are several conceptions of privacy in both the West and the East (Capurro, Eldred & Nagel, 2013; Buchmann, 2012; Ess, 2005; Capurro, 2005). In a comparative study of ethical theories in different cultures, Michael Brannigan addresses African ethics with the utterance “To Be is to Belong” (Brannigan, 2005). An analysis of this thesis could lead to a foundation of African Information Ethics based not upon the abstract or metaphysical concept of ‘Being’ of some classical Western ethical theories, but upon the experience of ‘Being’ as communal existence. The task of such an analysis would be to recognise the uniqueness of African perspectives, as well as commonalities with other cultures and their theoretical expressions. This analysis could lead to an interpretation of ICT within an African context and, correspondingly, to possible vistas for information policy makers, responsible community leaders and, of course, for African institutions.

Johannes Britz chaired a session on ICTs in Africa at the Ethics and Electronic Information in the Twenty-First Century (EE21) symposium at the University of Memphis (Mendina & Britz, 2004). He said that an important condition of Africa’s finding a place in the 21st century is a well-developed and maintained ICT infrastructure. Britz and Peter Lor, former Chief Executive of the National Library of South Africa, believe that the present North-South flow of information should be complemented by a south-north flow in order to enhance mutual understanding. They plead for a shift toward the recognition of the ‘local’ within the ‘global’, following the idea of ‘thinking locally and acting globally’. In ethical terms, this means respect for different local cultures and strengthening their active participation in intercultural dialogue (Lor & Britz, 2004:18; Britz, 2004). Although Africa is still far from a true knowledge society, there is hope of success on certain fronts, such as investment in human capital, stemming the flight of intellectual expertise, and the effective development and maintenance of IT infrastructure (Britz et al., 2006). Dick Kawooya (Uganda Library Association) stresses the ethical dilemma confronting librarians and information professionals in much of sub-Saharan Africa, namely concerns about general literacy, information literacy and access to the Internet on the one hand, and ‘dwindling budgets’ for educational institutions, particularly libraries, on the other (Kawooya, 2004:34). Michael Anyiam-Osigwe, chief executive of the African Institute for Leadership, Research and Development, stresses the importance of ICT towards attaining sustainable democracy in Africa (Anyiam-Osigwe, 2004). According to Coetzee Bester, a former member of parliament in South Africa and co-founder of the African Institute for Leadership, Research and Development, the problem of

ICT in Africa includes all stakeholders. He writes:

A program to reconstruct communities as holistic entities is necessary. This should include leadership, followers, agreed-upon principles and values as well as effective interaction among all these elements (Bester, 2004:12).

A value-based reorientation implies personal awareness, an understanding of information, effective interactions between leaders and their communities without limitations of time and space, and mutual confidence in representative leadership.

In the study *Ethics and the Internet in West Africa* (Brunet et al., 2004), the authors identify six types of ethical issues related to the development of the Internet in Africa but also relevant for other countries:

- Exclusion and inequity
- Culture (Internet content)
- Internet costs and financing
- Sociotechnical aspects of Internet integration (resistance, uses)
- Political power
- Economic organisation

There is no such thing as a morally neutral technology. This is not to say that technologies can be used and misused, but to express the deeper insight that all technologies create new ways of being. They influence our relation with one another, and they shape, in a more or less radical way, our institutions, our economies, and our moral values. This is why we should focus on information technology primarily from an ethical perspective. It is up to the African people and their leaders to question how to transform their lives by these technologies. African educational and research institutions should also critically reflect on these issues. As Bob Jolliffe, senior lecturer in computer science at the University of South Africa, has pointed out, there is an implicit connection between free software, free culture, free science, open access, and the South African Freedom Charter (Jolliffe, 2006). A major task of Information Ethics is to align such ideals with concrete social, political, economic and technical processes. ICT in Africa should become a major contribution for opening “the doors of learning and culture”, to use the wording of the South African Freedom Charter. The space of knowledge as a space of freedom is not, as Jollife rightly remarks, an abstract ideal. It has a history that limits its possibilities. It is a space of rules and traditions of specific societies that is in dialogue with their foundational myths and utopian aspirations. We are morally responsible not only for our deeds, but also for our dreams. Information Ethics offers an open space to retrieve and debate these information and communication myths and utopias.

10. Prospects

The main moral responsibility of African academics is to enrich African identities by retrieving and re-creating African information and communication traditions. From this perspective, cultural memory is an ethical task if we want to create a humane community based not just on the number of people, but on the relations between them, as the German Egyptologist Jan Assmann remarks following Friedrich Nietzsche in his *Genealogy of Morals* (Assmann, 2000; Nietzsche, 1999:294-300). Cultural memory must be re-shaped again and again to build the core of a humane society. This means no more and no less than basing morality on memory and communication, thereby establishing Information Ethics at its core. The function of cultural memory is not just to express what belongs to the collective memory of a community, but to engage the will of its members to connect themselves through the task of creating it. Cultural memory is connective, therefore it is related to our myths and to our dreams. We remember Nietzsche’s ambiguous warning: “You want to be responsible for everything! But not for your dreams!” (Nietzsche, 1999a:117). I call this warning ‘ambiguous’ because Nietzsche,

no less than Sigmund Freud, was well aware of the limits of human will and our tendency to repress or forget what we consider painful. The Egyptian god Thot is a symbol of cultural memory as a social task. He is the god of wisdom and writing, as well as messenger of the gods, particularly of the sun god Re, and is associated with the goddess Ma'at, the personification of justice. Thot, the Greek Hermes, was represented as an ibis- (or a baboon-) headed man with a reed pen and a palette, known in the Western tradition through Plato's criticism of writing in his *Phaedrus*.

To retrieve the African cultural memory with regard to information and communication norms and traditions is the main information challenge for African Information Ethics. It should recognise the different strategies of social inclusion and exclusion in the history of African societies, including traumatic experiences such as slavery and apartheid. Since the emergence of the Internet, this challenge is discussed under the heading of the digital divide. However, African Information Ethics implies much more than just the access and use of this medium. The problem is not a technical one, but one of social exclusion, manipulation, exploitation, and annihilation of human beings. It is vital that African Information Ethics be developed from this broader perspective.

There is a short and a long history of Information Ethics in Africa. The long history concerns Africa's rich oral and written traditions, throughout many centuries, about different kinds of information and communication practices, using different moral codes and media, and based on dynamic and complex processes of cultural hybridisation. Critical reflection on this history promotes greater awareness of Africa's cultural legacy, which provides the foundations of the digital Information and Communication Technologies that will create unique and genuinely African Information Societies for the future. Information Ethics opens a space for the critical reflection on established customs and values. It works as a catalyst for social change. It is a space for retrieving the rich African cultural memory that allows the reshaping of African identities and contributes to the world's information and communication cultures.

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Chapter Three

What is African Information Ethics?

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1. Introduction

Information Ethics (IE) as a field of applied ethics “provides a critical framework for considering moral issues concerning informational privacy, moral agency (e.g. whether artificial agents may be moral), new environmental issues (especially how agents should behave in the infosphere), problems arising from the life cycle (creation, collection, recording, distribution, processing, etc.) of information (especially ownership and copyright, digital divide)” (Information Ethics, nd: np). The role or purpose of ethics in society is to promote what is good in people, avert chaos, and provide norms and standards of behaviour based on human morals and values that are inclusive as opposed to exclusive by creating better moral agents. The development of this rapidly growing field since the 1990s is largely associated with contributions of eminent scholars such as Rafael Capurro, Luciano Floridi and Robert Hauptman (see Froehlich, 2005) and the development of IE education by the University of Pittsburg through the initiative of Toni Carbo and others. The three dominant ethical theories that define IE (as also highlighted by Johannes Britz in Chapter One) such as consequence-based, deontology/duty and virtue-based theories often demonstrate the difficulties and contradictions that arise in the conceptualisation and contextualisation of ethics (see Fallis, 2007; Froehlich, 2005; Ocholla, 2009; Ocholla, Onyanha & Britz, 2010 and Britz & Buchanan, 2010). For example, an excellent consequence that brings happiness to an individual, community or an institution may not necessarily be either right or virtuous. Similarly, the way people understand duty varies and the question therefore is, duty to whom – family, religion, employer, government or nation? Some of the most virile conflicts in family units, workplaces, governments and international relationships have largely arisen from conflicts in the interpretation of normative ethics. This also applies to the contradiction between mores, ethics and laws (see Froehlich, 1997:1-2), particularly if the three do not match or lack harmony, which quite often happens. Thus, “Laws most often find their origin in the ethics and mores of a given nation or region” (Froehlich, 1997:2). But contradictions have occurred in recent years regarding, for example, gay marriage, abortion, ordaining women priests, legalisation of prostitution in some countries and many more related examples.

A relevant email exchange between Rafael Capurro (2010, March 3) and me on multiculturalism also gives another dimension to ethics and Information Ethics. In his response to my question on whether globalisation can also mean multiculturalism, he wrote:

“Yes, I think so. We can make a difference between: multicultural analysis which means ‘just’ describing cultures without relating them to each other – intercultural analysis which means comparing and ‘translating’ cultures – transcultural analysis which means looking for what is common ‘beyond’ the singularities of each culture. If you connect this with ethics (and IE) then you get a better overview of the different dimensions. The key question is, of course, whether cultural differences are important or not when dealing with morality as well as with ethics as theory/ies of morality/ies”.

While recommending that I read the contribution by Philip Brey¹ at the European IE Conference in Strasbourg, he agreed with Brey: Cultural differences have a deep influence on moral values and

¹ http://portal.unesco.org/ci/en/ev.php-URL_ID=25455&URL_DO=DO_TOPIC&URL_SECTION=201.html.

theoretical views on them. I [Capurro] also think that the richness of human cultures is expressed in human moralities. This does not necessarily mean a moral relativism but I think that a transcultural morality for humanity is something Kant would call a 'regulative idea'. Kant, as you know, never proposed a dialogue of do/do not but gave 'just' a basic criterion for any moral maxim which is its universalization. This Kantian formalism in ethics (ethical theory) might allow us to better handle an intercultural and transcultural dialogue even if such presupposition (I mean Kantian formalism) is itself product of a specific culture, a specific European epoch and also a specific understanding of ethics.

2. What is unique or uniqueness?

African in this context refers to a native of Africa, normally an indigenous person or a person of African nationality or origin, while Africa refers to the geographical and physical space occupied by the continent of Africa. Africa's uniqueness depends on how it is perceived: in isolation or with others, as a single identity or multiple identities, or as a multicultural, intercultural or transcultural society. There is a lot that Africa shares with other continents and that Africans share with other cultures when Africa is not viewed through the lenses of colonial history and the socio-political and economic challenges it faces in modern times. How can this be explained within the context of political, economic, social and technological (PEST) environments in which the people and the continent exist and thrive?

2.1. Political issues

Africa consists of 54 countries with diverse geo-political, economic, social and technological backgrounds and dispensations. Politics through democracy plays a major role in the development of a country's information institutions and systems. However, democracy is a dilemma in Africa, where its interpretation and understanding is not always "of the people, by the people and for the people" as Franklin Roosevelt, in 1930 wanted us to understand; quite often, it is designed and applied only in circumstances where it largely suits the political and economic interests of individuals and nations/countries. We have a few countries that have fully embraced democracy as a system of political governance and are struggling admirably to keep it that way, e.g. most Southern African Development Community² (SADC) countries. Such countries have a popular constitution, strive to respect and adhere to the rule of law for all its citizens, are open and tolerant to competitive multiparty and parliamentary democracy, and ensure that popular elections are held regularly and elected political leaders leave office when their terms in office end. This is not a situation where one person 'rules forever' as has occurred and led to political turmoil in Tunisia, Egypt, Ivory Coast, Libya and Zimbabwe, or where leaders are removed from office forcefully (e.g. Tunisia, Egypt) or removed from office with power of bullets (e.g. in Libya). On the extreme end of the scale are dictatorial regimes that do not follow democratic principles of political governance or, even worse, lead to a state of political anarchy as has been the case for a long time now in Somalia.

Africa frequently blames its past for its present ethical predicament, sometimes justifiably so. The colonialists left socio-economic and political poke marks on the face of Africa that included painful periods of invasion, war, servitude, divestment, racial segregation and the denigration of indigenous communities. African political structures, cultures and traditions have been significantly influenced by foreign occupation and colonialism, whose approach, as Senghor puts it, was cogitative or well thought about. The relationship to Africans was that of assimilation. Leopold Senghor (1964:72-73) explains this relationship in sad and derogatory tones that in some ways also define our Information

² Angola, Botswana, Democratic Republic of the Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Swaziland, Tanzania, Zambia, Zimbabwe, South Africa, Seychelles (see http://en.wikipedia.org/wiki/Southern_African_Development_Community#Member_states).

Ethics:

In contrast to the classic European, the Negro-African does not draw a line between himself and the object, he does not hold it at a distance, nor does he merely look at it and analyze it. After holding it at a distance, after scanning it without analyzing it, he takes it vibrant in his hands, careful not to kill or fix it. He touches it, feels it. Thus the Negro-African sympathizes, abandons his personality to become identified with the other, and dies to be reborn in the other. He does not assimilate; he is assimilated. He lives a common life with the other; he lives in a symbiosis.

It is generally agreed that most of the continent's problems were initiated by slavery and occupation. Slavery³, which unfortunately still continues in different forms today (slavery statistics count 13 to 27 million slaves in the world today), is an abhorrent, dehumanising and agonising practice that displaced people and destroyed the culture, traditions and leadership structures of Africans. The latter were further destroyed by wars and occupation culminating in further displacement, the relocation of communities and families, division, and assimilation through religion and education. Religion and education became mass weapons of enlightenment, assimilation, and intellectual and spiritual invasion into the souls and minds of the African people, leading to the gradual erosion of cultures and traditions and what we now call the "mass society"⁴. The outcome of this mental and physical occupation of African space has led to intellectual transformation through Western education, the marginalisation of indigenous knowledge, mass conversion to Christian and Islamic religions, and the transformation of governance structures to Western democratic systems, all of which have contributed to African Information Ethics in different ways. Religion⁵ is supposed to be an ethical tool for supporting normative behaviour and healing the mind and soul. But it has also acted as a weapon for destruction and alienation.

Although globalisation⁶, meaning integration in all spheres, is considered to be a social, economic, political and technological concept, it is, in my view, more of a political construct that influences African Information Ethics – whether it is approached from a positive, neutral, negative or constructive paradigm. With respect to information services, globalisation means connectivity, accessibility, visibility, assimilation and 'inclusivity' in the access and use of information worldwide. We do not forget its negative consequences such as culture and language loss, among others. I would think that globalisation is defined by the level of networks (inflows and outflows) or connectivity within Africa and between Africa and the rest of the world. At government levels, such linkages occur largely at PEST levels, e.g. within the African Union, United Nations, South African Development Community (SADC), East African Community (EAC), Common Wealth, Economic Community of West African States (ECOWAS), etc., while at private level, mass media dominates. Access to and the use of non-African mass media, particularly television, the Internet, film industry and social media is quite common. Socially, globalisation brings Africa closer to the world and the world closer to Africa by creating useful social, private, business and government networks for information and knowledge sharing. However, globalisation is enabled through ICTs, and access to and the use of these technologies is minimal in Africa (see 2.4).

2.2. Economic environment

The economies of African countries are not the same; of 54 African countries, the ten richest in terms

³ <http://en.wikipedia.org/wiki/Slavery>.

⁴ http://en.wikipedia.org/wiki/Mass_society.

⁵ <http://en.wikipedia.org/wiki/Religion>.

⁶ <http://en.wikipedia.org/wiki/Globalization>.

of GDP per capita are (in descending order) Equatorial Guinea, Botswana, Gabon, Libya, Mauritius, South Africa, Angola, Tunisia, Algeria and Egypt, while the 10 poorest (from N.43) are the Central African Republic, Eritrea, Niger, Sierra Leone, Guinea Bissau, Somalia, Liberia, Burundi, Democratic Republic of the Congo, and Zimbabwe. A sound economy and economic management supports resource and infrastructural development and sustainability. Unfortunately, not all the richest countries in Africa have good resources and infrastructure, due largely to economic mismanagement. Some richer countries such as South Africa (rated number six in Africa and 24 in the world) have better access to resources and the infrastructure is far more developed, leading to better access to ICTs, libraries and information centres, mass media, telecommunications networks, and the human capacity to manage them. Such amenities come on board with unique IE issues that would normally not be significant in an impoverished environment such as in Somalia. However, there is no link between wealth on the one hand and good governance and civil freedom/liberty on the other, as it occurs.

2.3. Social issues

The social aspects of African diversity are embedded in culture and traditions, language, literacy levels, education, ethnicity, religion and belief systems, and indigenous knowledge (IK) (as also expressed by Dick Kawooya in Chapter Five). Unfortunately, the African cultural/social paradigm has suffered significant loss due to its alienation and weak development, which raises serious information ethics concerns regarding, for example, access and exploitation. However, it would be foolhardy, as Maurice Makumba (2007:18) puts it, to “talk of a pure indigenous Africa engaged in a completely detached reflection on reality. There was always the influence of the surrounding world, which involved a cultural in-flow and out-flows” that is represented by the way people from Africa live and function. For example, while there are many languages spoken in most countries, the dominant languages are still the languages of the colonialists whose languages – (21 English-speaking (Anglophone), 24 French-speaking (Francophone), five Portuguese-speaking (Lucophone), seven Arabic-speaking and two Spanish-speaking) are widely spoken either as national or official languages alongside other local dialects such as Kiswahili in Eastern Africa. We also have cultures within countries that developed in most cases alongside non-African religions such as Christianity, Islam:

Africa of antiquity had contact with the Jewish, Greco-Roman and, to a certain extent, the Near Eastern worlds. Mediaeval Africa came face-to-face with mediaeval Christian Europe and Islamic influence from the Middle East. Modern Africa, or at least a part of it, had contact with modern Europe (Makumba, 2007:18).

As Kwasi Wiredu (1998:15) notes, “Through the twin historical facts of Western colonisation and Christian evangelisation, African cultures have been profoundly impregnated with ethical, metaphysical and epistemological ideas of Western provenance.”

Traditional African information access, transfer and use systems are largely based on the oral tradition and indigenous knowledge (IK) where word of mouth (WoM) is predominant. Sources of IK thus include songs, folklore, proverbs, dances, myths, cultural rituals (e.g. during birth, transition to adulthood – circumcision, cultural weddings, deaths/funerals, etc.), beliefs/religion, customary laws, local languages, indigenous people, the natural environment, community intermediaries/gatekeepers/community sages, traditional healers, community courts, and more recently, African churches. With the exception of the latter, many of these information access and transfer systems are fast approaching extinction. Perhaps Munyaradzi Murove (2009) is right when writing on *Preserving our collective memory: An ethical inquiry into the future or archival tradition in Africa* by questioning whether what is in the [African] archives is a collection of African memory and whether African people have access to their archival memory. He argues that African morality is a morality of memory where IK plays a significant role. There are concerted efforts being made in Africa to resurrect and reconstruct a number of lost information access and transfer traditions, albeit mostly through cultural

activities during national or cultural festivals and events in order to preserve and disseminate knowledge, also to attract tourists and for entertainment purposes.

The reasons behind why oral traditions have been marginalised are closely tied to the marginalisation of IK. Maurice Makumba (2007:37-45) argues that early European thought on African philosophy, as represented by Kant, Hegel (*Philosophy of History: Myth and Reality*) and Levy-Bruhl did not seem to recognize African philosophy because Africans were considered to be primitive or uncivilised, and primitive people had 'no sense of thought' or were unable to think/reason logically. With this type of thinking, which still permeates some parts of our modern society, it may be that African ethics or African Information Ethics would be branded the same. Despite this, Oruka (1991) among others (also Hountondji, 1996), defends the existence of African philosophy and distinguishes the 'folk sage' (conformist inclination – who stands/ goes by what culture and tradition say without questioning) from the 'philosophic sage' (critical inclination, open to discourse on cultural issues). Oruka uses these two opposite philosophical paradigms to question or disapprove of the three European philosophers' viewpoints. My recent (2011) encounter with a philosophic sage (a 90-year-old Senior Chief in Kenya) who was open to discussions on any traditional matter including Information Ethics, confirms Oruka's point on the two philosophic paradigms.

I (Ocholla, 2007) have referred to marginalisation to mean exclusion – a state of being left out or insufficient attention being given to something – and argue that the marginalisation of IK is a legitimate Information Ethics issue because it restricts access and also defines a tragedy to the uniqueness of African Information Ethics. The marginalisation of IK has occurred over many years and has retarded its development and integration. There are many speculative reasons behind why this occurs (Ocholla, 2007). Of these, some stem from the characteristics of IK, associating IK with the poor. For example, the World Bank Group (n.d.) states: "Indigenous knowledge is also the social capital of the poor, their main asset to invest in the struggle for survival, to produce food, to provide for shelter or to achieve control of their own lives." Families and communities are becoming increasingly disintegrated and globalised, fuelled by stereotypes, in the way we define IK in relation to broader knowledge or in the context of knowledge management. For instance, Bell (1973:176) defines knowledge as "that which is objectively known, an intellectual property, attached to a name or a group of names and certified by copyright or some other form of social recognition (e.g. publication)".

Marginalisation has also occurred because of the impact on the global sharing of knowledge as families and communities are becoming increasingly disintegrated and globalised (integrated), a trend that may have stemmed from the increased supply of mass products, services, mass media gadgets and content to private spaces where IK once thrived. During periods of domination, which have been variously described with terms such as 'forced occupation', 'invasion', 'colonialism', 'servitude', 'apartheid', 'ethnic cleansing' and 'imperialism', IK was subject to yet another level of marginalisation. It was often referred to in a negative or derisive manner, with phrases such as 'primitive', 'backward', 'archaic', 'outdated', 'pagan' and 'barbaric'. This demeaning reference did not create space for IK's integration with other forms of knowledge, commonly referred to as 'scientific', 'Western' or 'modern' or 'exogenous knowledge' (largely products of explicit knowledge). Put simply, a person or community practising or using IK was stigmatised and often abandoned IK practices even if they could be helpful. As a result, IK was vilified, illegitimated, illegalised, suppressed and abandoned by some communities, and the countries and people practising it were associated with out-datedness, a characteristic most people find demeaning. This form of marginalisation produced a generation which, for the most part, does not understand, recognise, appreciate, value or use IK. Arguably, this situation has produced an intellectually 'colonised' mindset. These are communities that the celebrated world novelist, Ngugi wa Thiongo (1986), in his essay *Decolonizing the mind: The politics of language in African literature*, considers intellectually colonised.

Marginalisation has also been fuelled by stereotypes. There has been a tendency to

associate IK with traditional communities (Ocholla, 2006). Studies on IK tend to focus on the poor, the developing countries, the Aborigines of Australia, the Maoris of New Zealand, the native Canadian and Americans, the Maasai of Kenya, and so on. The nature of these studies raises problematic questions on their negative and positive intentions, such as: Are the studies done to improve the welfare of the communities, or are they done to demean such communities? Would such studies be done in order to gain and share knowledge on how well the communities can solve their problems by using IK systems and methods? Are studies done to unravel or demystify the stereotype paradigm? Alternatively, are such studies merely adventurous outlets justifying where research money has been spent? Would it not perhaps also be interesting to study the IK of Western or industrialised communities as information access and use for development is our ultimate goal?

Whereas much can be gained from IK studies conducted on any community in the world (since each community contains elements of IK), the demeaning tendency to focus IK studies on traditional and poor communities has been an added cause of marginalisation that raises serious ethical questions.

2.4. Technological issues

I would like to start this section with a quote from the editorial of International Review of Information Ethics (Hongladarom & Britz, 2010) that has implications for the understanding of intercultural Information Ethics and its dimensions on modern society where ICT-driven cultures increasingly clash with regular/traditional cultures and where the boundary between universalism and particularism is increasingly blurred:

It is well known that information and communication technologies have permeated all corners of the world [...] Moreover, the Internet has continued to penetrate deeper and deeper into the everyday world of ordinary people, so much so that it is fast becoming a ubiquitous medium present in different cultural contexts [...] An inevitable result of the global penetration of the Internet and the mobile phone (in fact the two technologies are fast merging into one device only) is that presuppositions of the world's cultures could clash with those accompanying these technologies. This has given rise to an emerging field called 'Intercultural Information Ethics', where the cultural presuppositions of the world's cultures are seen as an important factor in consideration of ethical theorization and the search for ethical guidelines [...] In terms of theory, many questions still remain: How are we to come to terms with the age-old philosophical problem of universalism and particularism? In other words, are values embedded in the use of information and communication technologies culture specific or are they universal? Or are there some values that are specific to time, place and culture, and are there some others that are more universal? Does the term 'universal' admit of degree, so that one can be more 'universal' than another?

Technological development is closely linked to the three factors (see 2.1 - 2.3) that also differ from country to country, and from urban to rural areas in Africa. A democratic country with a sound economy and developed social systems (e.g. education and literacy) would do exceedingly better technologically than those with less or none of the above, which brings us to the digital divide⁷.

The digital divide is a popular concept or phrase used to explain the inequality of information access and use, largely with respect to ICTs within or between individuals, families, communities, nations and regions. It is another way of defining the knowledge 'haves' and 'have nots' that is dealt with under information poverty by Johannes Britz in Chapter Seven. The digital divide statistics in Africa are alarming. For example, ITU World Telecommunication/ICT Indicators database (2012)

⁷ http://en.wikipedia.org/wiki/Digital_divide.

provides amazing statistics:

Table 1 Key statistical highlights: ITU data release June 2012⁸

Mobile cellular	Mobile broadband	Internet
Total mobile-cellular subscriptions reached almost 6 billion by end 2011, corresponding to a global penetration of 86%. Growth was driven by developing countries, which accounted for more than 80% of the 660 million new mobile-cellular subscriptions added in 2011. By the end of 2011, there were 105 countries with more mobile-cellular subscriptions than inhabitants, including African countries such as Botswana, Gabon, Namibia, Seychelles and South Africa. Countries where mobile-cellular penetration increased the most in 2011 include Brazil, Costa Rica, Kazakhstan, Lao P.D.R. and Mali.	By end 2011, there were more than 1 billion mobile-broadband subscriptions worldwide. Although developing countries are catching up in terms of 3G coverage, huge disparities remain between mobile-broadband penetration in the developing (8%) and the developed world (51%). In Africa there are less than 5 mobile-broadband subscriptions per 100 inhabitants, whereas all other regions have penetration levels above 10%. In 2011, 144 million mobile-broadband subscriptions were added in the BRICS (Brazil, the Russian Federation, India, China and South Africa), accounting for 45% of the world's total subscriptions added in 2011.	The percentage of individuals using the Internet continues to grow worldwide and by end 2011 2.3 billion people were online. In developing countries, the number of Internet users doubled between 2007 and 2011, but only a quarter of inhabitants in the developing world were online by end 2011. By end 2011, 70% of the total households in developed countries had Internet, whereas only 20% of households in developing countries had Internet access. Major differences in Internet bandwidth per Internet user persist between regions: on average, a user in Europe enjoys 25 times as much international Internet capacity as a user in Africa.

3. Conclusion

This chapter has posed more questions than answers. A question that is also posed by Bernd Frohman (2007:135) is: is there an Information Ethics that is solely pursued in Africa to be called African Information Ethics? To what extent has colonialism, within the context of religion, occupation, education, slavery, marginalisation of indigenous knowledge, language (e.g. Francophone, Anglophone, Lucophone) political democracy and PEST linkages and affiliations to the former colonial states, influenced African Information Ethics either positively or negatively? Similarly, how does the conceptualisation and contextualisation of IE theories and relationships between ethics, laws and morals, on the one hand, and multiculturalism, transculturalism and interculturalism, on the other hand, define and explain our understanding of African Information Ethics? Our quick answer to the first question, based on the second question, is yes, there will be Information Ethics solely pursued in Africa given its geographical, historical, cultural and technological background and development. But this does not isolate such Information Ethics from the rest of the world as long as interaction between Africa and the rest of world occurs. We believe that reasons that inform regional social studies (e.g. European/African/Asian/American history/philosophy/languages) also emerge when we tackle African Information Ethics on its own to create better/in-depth knowledge and understanding of its uniqueness and environment. For example, the understanding of African communalism that is often represented by Ubuntu (see also Mabovula, 2011), a paradigm highlighted by Rafael Capurro in Chapter Two (citing related studies), provides a unique dimension for understanding African Information Ethics. Justifiably, then, through the initiatives of the African Network of Information Ethics “[t]he attendees agreed to form a network of professionals interested in Information Ethics from an African perspective – the ANIE, African Network for Information Ethics, to further research in this area and to contribute to

⁸ Source: ITU World Telecommunication/ICT Indicators Database 2011, see http://www.itu.int/ITU-D/ict/statistics/material/pdf/2011%20Statistical%20highlights_June_2012.pdf.

fulfil the ideals as spelled out in the Tshwane declaration"⁹. Many positive activities worth noting have taken place since that time. Among them are the establishment of the ANIE website; organisation of regular Information Ethics conferences and workshops; enabling IE research and open access publications; supporting an IE curriculum development forum, and the creation of African Centre of Excellence in Information Ethics (ACEIE) at the University of Pretoria.

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⁹ <http://www.africainfoethics.org>.

Chapter Four

Ethical Dimension of the Information Society: Implications for Africa

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1. Introduction

Information Ethics (IE) concerns the responsible use of Information and Communication Technologies (ICTs) in the Information Society as enunciated by the World Summit of Information Society Action Line C10 (WSIS, 2005). The Internet, social media, computers and associated applications, such as e-Government and social networking, are having a tremendous impact on society. The laggard technological adoption behaviour that has characterised Africa and its people for many years is gradually being overcome in the wake of new technologies. New information and communication technologies have quickly gained acceptance and use in education, research, business, government, politics, professional practice and in the general society, which raises several ethical issues such as: protection of users' rights; user privacy guarantees; methods of enforcing compliance with the policies; user compensation when rights are violated; sanctions for errant users; verification of the credibility of information uploaded by users; methods of conflict resolutions; roles and responsibilities of users; dealing with cybercrime; user training; dealing with intellectual property rights; guarding servers against invasion and more. In Africa, cultural practices form part of the daily norms of the people and, consequently, the ethical issues concerned with the use of new technologies can never be over emphasised. In addition, Africa is endowed with people of diverse and heterogeneous norms, cultures, languages, religions, and governance systems that answer to different ethical and moral interpretations. This environment has created increased concerns about the moral and ethical implications for society, especially with regard to people's legitimate rights. This chapter provides an attempt to address the responsible use of ICTs in the Information Society.

Velasquez, Andre, Shanks, and Meyer (2010) state that ethics is not about somebody's feelings, one's religious beliefs, or doing what the law requires, or the standards of behaviour our society accepts. Instead, ethics refers to wellfounded standards of right and wrong that prescribe what humans ought to do, usually in terms of rights, obligations, benefits to society, fairness, or specific virtues. In this regard, ethics implies those standards that impose the reasonable obligations to refrain from rape, stealing, murder, assault, slander, and fraud. In addition, ethical standards support virtues of honesty, compassion, and loyalty; and the right to life, the right to freedom from injury, and the right to privacy. Fallis (2007) explains that the concept of ethics means distinguishing right actions from wrong actions based on the premise that [right actions] have better outcomes. However, Fallis is quick to point out that there are ethical duties that human beings must obey, regardless of the outcomes. The right thing to do is determined by the rights that human beings have, such as the universal human rights or the commonly held value system of persons, despite different moral or cultural backgrounds and inclinations. Carbo (2007) asserts that ethical conduct dictates that individuals should be treated with love, affection, kindness, gentleness, generosity of spirit, and warm-heartedness.

While ethics is a concept that has come of age, Information Ethics is fairly new in literature, having gained prominence after the World Summit on Information Society (WSIS) in 2003 and 2005, respectively, as articulated in Action Line C10 of the Plan of Action (WSIS, 2005).

By definition, Information Ethics may be perceived as a branch of ethics which Chuang and Chen (1999) consider being a much larger philosophy known as social ethics. They consequently define Information Ethics as a discipline dealing with the moral conduct of information users with respect to their responsibility. The WSIS Action Line C10 focuses on the ethical dimensions of the Information Society. This Action Line holds that the Information Society should be subject to universally held values and promote the common good, while preventing abusive uses of ICTs. Furthermore, the Information Society should take steps to promote respect for peace and to uphold the fundamental values of freedom, equality, solidarity, tolerance, shared responsibility, and respect for nature. In addition, all actors in the Information Society should promote the common good, protect privacy and personal data and take appropriate actions and preventive measures, as determined by law, against abusive uses of ICTs for illegal and other acts such as racism; racial discrimination; xenophobia and related intolerance; hatred; violence; all forms of child abuse, including paedophilia and child pornography; and trafficking in, and exploitation of human beings (WSIS, 2005). Action Line C8 of the WSIS Action Plan is also relevant, especially for Africa, as it focuses on cultural diversity and identity, linguistic diversity, local content, traditions and religions. It also advocates for policies that support the respect, preservation, promotion and enhancement of cultural heritage as well as diverse forms of digital and traditional media (WSIS, 2005).

2. Responsible use of ICTs in the Information Society

Capurro (2008) underscores the value of Information Ethics in the Information Society in upholding the fundamental values of freedom, equality, solidarity, tolerance, shared responsibility, respect for nature, peace, justice, dignity of human persons, and respect for human rights. He also highlights the importance of fundamental freedoms of others including: personal privacy, the right to freedom of thought, conscience and religion, in conformity with relevant international instruments, and in ensuring that all actors in the Information Society take appropriate measures, as determined by the law, against abusive uses of ICT. Chuang and Chen (1999) note that the use of computers has created new problems, involving cybercrime, unlawful acquisitions of private information and hacking, that must be addressed.

The abusive use of new technologies has increased with the rapid spread of mobile phones and social media worldwide, in general, and in Africa in particular, more than any other technologies, such as radio, television, Internet and computers, have in the past. The rapid spread of social media, for example, has raised several questions regarding the protection of legitimate rights of the users. There are fears that information uploaded by users into social media networks will be passed onto other sources by service providers without their consent. Besides, there have been attempts by overzealous governments and organisations to restrict access to social media, especially when they believe such new ICTs are being used for political agitation against governments in power, as it happened during the Arab Spring. Rice (2011b) writes about other attempts to gag freedom of expression through a draft social-media policy at Sam Houston State University that was intended to force students with a campus-related Twitter, Facebook, or other online account to give university administrators editing privileges. Elsewhere, Egyptian government officials in 2008 beat Ahmed Maher Ibrahim, a 27-year-old civil engineer, for using Facebook to support calls for a general strike on May 4 – President Mubarak's 80th birthday. Lundsday (2010) therefore says new technologies, especially social media, if not well managed, open the door to numerous risks such as the breach of confidentiality, conflicts of interest, and misuse of organisational resources.

Late in 2011, the Hacktivist Group Anonymous threatened an imminent attack to bring down Facebook. Hacktivists, who are ardent supporters of WikiLeaks, were targeting Facebook because the social network has often been at the centre of privacy concerns regarding its users' information. Hacktivist Group Anonymous, in a decoded voice in a YouTube video, noted that "everything you do

on Facebook stays on Facebook, regardless of your privacy settings and deleting your account is impossible, changing the privacy settings to make your Facebook account more private is a delusion [...]” (Arico, 2011).

The issue of breach of privacy in online environments seems pervasive. Daily Nation (2012) carried an article saying that companies that make many of the most popular Smartphone applications for Apple and Android devices routinely gathered the information in personal address books on the phone and, in some cases, stored it on their own computers and then transmitted it without the knowledge of the owners of such information. Facebook, Twitter, Foursquare, Instagram and others were reported to upload either users’ contact phone numbers or e-mail addresses to their servers for matching purposes. These applications often perform this action without seeking permission or informing the owner how long they plan to store this data. In 2012, the Path iPhone App users were surprised to learn that the address books contacts of their e-mail addresses and phone numbers had been uploaded to and stored on Path’s servers. Moreover, Google announced plans to review its privacy policy that would legitimize releasing information of its clients to third parties without their [clients’] consent (Google, 2012).

Currently, Africa has the fastest mobile phone growth rate in the world and there is also a proliferation of social media users. However, the institutional capacity for African governments to guarantee citizens’ legitimate rights relating to ethics and morality in their interactions with others using new and emerging technologies, such as social media, seems neither to exist nor is it prioritised. Mason (1986) raises several ethical issues in the electronic age, which include privacy; accuracy; accountability for errors in information; how the injured party can be made whole; intellectual property; ownership of the channels through which information is transmitted; and accessibility. New information technologies, such as social media, largely rely on the trust of the users for compliance with the provisions of the user policy. Trust is a critical dimension of ethics with an interdisciplinary origin, including (but not limited to) management (Dirks & Ferrin, 2002) and information systems (Salo & Karjaluoto, 2007; Lee, 2005 and Shao, Ma & Meng, 2005). Easton (1965) explains that the presence of trust means that members will feel their own interests would be attended to even if the authorities were under little supervision or scrutiny. Besides, the ability to trust others and sustain cooperative relations is the product of social experiences and socialisation.

3. Social media penetration and uptake

The social media deserve special attention in the Information Society for two main reasons: 1) the use of social media is the fastest growing online activity worldwide; 2) it has had the most significant impact, in the shortest possible time, among people of diverse professions, ages and genders. Weiss (2008) observes that the social media are a global phenomenon happening in all markets, regardless of wider economic, social and cultural development. The growth areas of the social media, the world over, are in video clips (83%); social networks (57%) and the widget economy (23%) (social network users with installed applications); and the blogging community (42 million bloggers) (Smith, 2011). With regard to individual social network usage, Facebook was, in 2011, rated as the most popular social networking space with an estimated 55 0750 million unique monthly visitors (eBizMBA, 2011; Arico, 2011). Moreover, the largest demographic group on Facebook was the age group 35 to 54, followed by the 18 to 24-year-olds (Y & Z generation respectively) (Corbet, 2010).

In South Africa, MXit and Facebook in 2011 led the way in user numbers, followed by Twitter and BlackBerry Messenger. A social media 2011 survey found that there were about 3.4 million users online using Facebook in South Africa. This number translates to 64% of the online population Facebook users in South Africa (Socialmedia blog, 2012). Onyango (2012), citing results from a survey of Twitter users in Africa, found that Kenyans are the second highest users of Twitter in Africa,

surpassing countries in the Maghreb that had used the facility to stage political revolt. Kenyans were ranked behind South Africans, but tweeted more than Nigerians, Egyptians and Moroccans, despite having a lesser population. The survey found that 60% of those who tweet are aged between 20 and 29 years. The study also found that 57% of these tweets are from mobile devices and are driving the growth of social media in Africa.

Social media activity that started on intranets and private networks has since evolved to become a web-based social networking tool. The social media platforms are proliferating and include, among others, MySpace, Twitter, Skype, LinkedIn, Google+ and Facebook. Social media are used for interaction, enabling users to add friends, comment on profiles, join groups and have discussions. Photo and video supporting social networks include, among others, YouTube and Flickr. They enable users to share and comment on other users' submissions. On the other hand, Wikis, such as Wikipedia, support social interactions by enabling users to add and edit existing articles. Most social media service providers are based in Europe and North America and are subject to the legal framework of those jurisdictions with regard to the legitimate rights of users.

Lindsay (2010) observes that though the social media are relatively new compared to cell phones, using social media is now the number one online activity, with its use accounting for 10% of all users' time on the Internet. In addition, social media use is growing three times faster than the Internet's overall growth rate. The factors driving social media proliferation need not be over emphasised. Expectations and user online behaviour is rapidly changing, with people existing in the world of instant, real-time communication, where immediate access to partners, customers and information is now the norm. Mathen (2012) observes that today's employees create and receive information from a host of different sources and formats that cannot be met by typical corporate intranets. Furthermore, since organisations house the data people require, their network capabilities fall short of supporting new work environments and working styles. Besides, with globalisation, employees now routinely work with people outside their territories and different business units.

The rapid penetration and use of the social media is also being driven by the rise of affordable handsets and broadband connectivity. Farmington (2012) notes that the availability of cost-effective mobile and wireless solutions and the greater demand for access to the social media platforms are becoming the most important factors driving the rapid growth of the media. Chauke (2012) supports this assertion by arguing that more people are now connected to the Internet through their cell phones than through computers. Gosier (2008) notes that mobile phone penetration is higher in Africa than in any other region in the world, providing an enhanced environment for the growth of social media. Mathen (2012), citing a social media report from Portland Communications (USA), notes that Africa has 48 million social media users distributed as follows: 30 million on Facebook, 6 million on LinkedIn and 12 million on Twitter. Moreover, in 2011, the number of Facebook users in Africa exceeded the use of this medium in Eastern Europe and, for this reason, Facebook enabled a Swahili language version, while Hausa and Zulu versions were in the review process (Viralblog.com, 2009).

The impressive growth of social media in Africa, compared to the broadband and e-Government innovations, is evident in the relative positions of the South African Development Community (SADC) in the world ranking, which show that South Africa, which is ranked 23rd in social media global penetration, was ranked 91st in the Digital Opportunity Index in 2006 and this position has not significantly changed. The Digital Opportunity Index (DOI) is used to measure and evaluate the opportunity, infrastructure and utilisation of ICTs by government and its people. DOI monitors recent technologies such as broadband and mobile Internet access, the falling price of broadband, and increasing broadband speeds (World Information Society Report, 2006).

Since the social media have evolved into a global phenomenon, they have progressively been adopted by people of all ages and persuasions. The fast acceptance of social media is, in part, fuelled by the fact that traditional collaborative technologies such as e-mail and telephone, which are largely text and document-centric, have become increasingly less efficient to drive innovation and productivity

(Mathen, 2012). Social media is being applied in business as a new competitive tool with companies adopting social software as a strategic part of their IT investment to improve business collaboration. Companies have also embraced social software to bring about integration of disparate organisational units and to create a workforce free of geographic constraints. Mathen (2012) is of the view that businesses are using social media to facilitate more customer interaction, as well as for marketing purposes.

4. Social media use in society

Ngetich (2011) observes that many people use social media to contact their friends using e-mails, while others use it to chat. At places of work, social media are reportedly being used to cut phone bills by chatting and getting news updates on the outside world. Besides communication and sharing of information on various issues, including jobs, social media enable people to market their products. Bob Collymore, an ardent user of social media and the chief executive of Safaricom (the market leader mobile service provider in Kenya), says "social media is a place for people to tell you what's good and what's bad about what you are doing as well as a place for people to vent their frustrations". Collymore further says people join social media for three reasons, 1) for identity; 2) to get connections and 3) to socialise within a community. He says people have secured jobs and others lost theirs on social media. Moreover, a number of individuals in the private sector and government are turning to social media platforms to promote their brand.

5. Social media use in education

Rice (2011) points out that in education, college students in the United States are taking social media to a new level by using websites like Facebook to communicate with other students about their coursework. In a survey, nine out of ten college students said they use Facebook for social purposes, like writing status updates and posting pictures. The majority, 58%, said they feel comfortable using it to connect with other students to discuss homework assignments and exams. More than 30% of students said they use sites such as Twitter, MySpace, LinkedIn, and Google+. Nearly a quarter of students reported using social studying sites, such as CourseHero and GradeGuru, and 11% said they wish instructors would incorporate these sites into the curriculum more often.

Social media has also great potential as a delivery conduit for Massive Online open Courses (MOOC) or Massive Online Crash Courses (MOCC) that are increasingly being offered by many leading universities especially in North America and Europe. McAuley, Steward, Siemens and Cormie (2012) define MOOC as "an online phenomenon integrating the connectivity of social networking, the facilitation of an acknowledged expert in a field of study and a collection of freely accessible online resources".

The Massive Open Online Courses (MOOC) phenomenon is leveraging the development of new social software and Internet technologies. Zhu (2012) observes that MOOC in the past year has emerged to be a major trend in education space, witnessed by the rapid take-off of online universities such as Stanford on one hand and Harvard, MIT and Berkeley on another. These courses are being offered on such platforms as EdX, Coursera and Udacity. Stanford Report (2012) announced that the University would offer 16 online courses on three platforms (Class2Go, Venture Lab and Coursera) for the fall quarter. During the spring, Venture Lab platform hosted 37 000 students for the Technology Entrepreneurship course while another 29 000 students were hosted on Coursera in the Writing in the Sciences course. The courses being offered as MOOC virtually for free include among others computer science, finance, mathematics, linguistics, science writing, sociology, engineering and education. Each of the platforms has peculiar features and pedagogies and capabilities that include video lectures, discussion forums, peer assessment, problem sets, quizzes and team projects.

The University of Manitoba in Canada is credited to have been the first to offer MOOC to 24 credit students and 2 200 non-credit students in 2008, but Stanford University in 2011 surpassed expectations when it offered a free online course on artificial intelligence to 160 000 students across all countries except North Korea (Mail & Guardian, 2012).

The MOOC offering has both positive and negative ethical implications. On the positive side, MOOC create opportunities to enhance access and participation in higher education among the many students who are normally excluded from mainstream higher education by the inflexible campus model universities and the high cost of tuition associated with them. All the work within the MOOC courses (readings, discussions, and repurposing of material) is shared with everyone else. The idea is that the more you engage with the courses with other participants, and with distributed content, the more you will learn. The MOOC model universities free up resources and require fewer lecturers. The MOOC provides a way for universities to increase their intake in degree courses to help meet their widening participation obligations.

On the negative side, it is claimed completion rates in MOOC are poor compared to traditional universities (Mail & Guardian, 2012). For example, of the 160 000 that were enrolled in the artificial intelligence course at Stanford University in 2011, only 23 000 completed successfully. MOOCs raise issues of credibility due to lack of real-world interactions between professors and students. For example, how does one engage with a lecturer in a class of thousands of students? Those who offer to pay for the courses are given meetings with facilitators, a privilege which non-credit students do not enjoy (McAuley et al., 2012). Besides, though MOOCs are free for non-credit purposes, tuition is charged for students taking them for credit. The ownership of the content created by learners in MOOC environments remains unclear, yet this has intellectual property implications. Largely, MOOC programmes along with pedagogies have been developed in the Western universities. The implications for relevancy in a developing country context cannot be wished away. The need to tailor-make curricula to address the peculiarities of developing countries in terms of ICT infrastructure, access to digital networks, digital literacy, and more should form part of the African scholarly endeavour.

Moreover, MOOC offerings presuppose access to electronic resources such as e-books and electronic journals. However, while electronic journal infrastructure has in recent years improved in developing countries, the e-book industry is not well developed. For example, in South Africa, the Publishers Association of South Africa estimates that e-books constitute about 1.5% of the overall book market in the country (Jones, 2011). Besides, the contribution of e-books to revenue is even less considering that online e-books retail at less than 50% of the price of the traditional print books (Jones, 2011). Besides, a lack of standardisation of metadata makes access to e-books difficult (Jones, 2011). E-books are also criticised for poor onscreen presentation, restrictive licensing, high cost and the limited range of titles offered. This is exacerbated by the fact that because of the need for more licences at peak hours, often the number of titles for access is limited. In addition, during peak hours, users are often turned away. For these reasons, the uptake of e-books is quite low (Cox, 2004) and incapable of sustaining MOOC model universities especially in developing countries, the majority of which are in Africa.

6. Social media use in politics and government

Social media has become an important agent for social, economic and political transformation, especially in developing countries. Social media is finding increasing use in politics and government among other sectors. The Ghanaian government is one of the pioneers in Africa to utilise social networking tools such as Facebook and YouTube to offer services at its Ministry of Information. Onyango (2011), citing the Twitter Survey in Africa, found that several Kenyan political leaders have set up social media accounts to 'woo' voters in preparation for the next (2013) general election.

7. Ethics and social media

Social media providers expect users of their services to adhere to some basic standards of ethical behaviour, but the mechanisms for enforcing compliance remain weak. For example, Facebook has a Statement of Rights and Responsibilities and a user privacy policy that governs their relationship with users and others who interact with their social media platform. The privacy policy provides guidelines of how interaction with others takes place and how Facebook collects and uses clients' content. The content owner is required to grant Facebook exclusive, transferable, sub-licensable, royalty-free, worldwide licence to use the content (Facebook, 2012). This intellectual property licence, in theory, ends when a client deletes the content or the account, unless the content has been shared with others, and they have not deleted it. However, in practice, removed content may still exist in backup copies for some time, while not being made available for access. Consequently, once information is out of the hands of the contributor, there is limited guarantee that even if it is deleted from the contributor's account, the information becomes permanently unavailable because it is likely to have been accessed by other users who would still be keeping it.

Facebook says it relies on client trust and goodwill in an attempt to protect other people's rights and to enhance safety (Facebook, 2012). Furthermore, Facebook in its user policy says it does not allow the under 13 age groups or sex offender convicts to use their services. However, there are no explicit ways of ensuring only legitimate users register to use their platform. In addition, Facebook has no way of verifying the integrity, honesty, reliability or accuracy of the information they receive from users (Facebook, 2012). This also applies to Twitter, which does not require e-mail verification or identity authentication (Twitter, 2012). Generally, the user policy guidelines of major social media platforms explicitly indemnify service providers from liability in the event of any litigation arising out of breach of rights of their users or other parties. For example, Facebook's user policy says "[...] If anyone brings a claim against us related to your actions, content or information, you will indemnify and hold us harmless from and against all damages, losses, and expenses of any kind (including reasonable legal fees and costs) related to such a claim" (Facebook, 2012). Facebook's user policy also says there are no guarantees for the service providers to ensure strict compliance with ethical provisions, either through policy or technological interventions. In this respect, Facebook is explicit that "[w]e do our best to keep Facebook safe, but we cannot guarantee [...] [o]ur platform is bug free, safe, and secure" (Facebook, 2012).

In contrast, most Twitter profile information is public, so anyone can see it. According to Twitter (2012), non-public information about its users is only released as lawfully required by appropriate legal processes such as a subpoena, court order, or other valid legal processes. Twitter acknowledges that the information they store from users may not be accurate. LinkedIn (2012), in contrast, states that the information the client provides is used to create and distribute advertising relevant to the [client's] LinkedIn experience. Moreover, the responsibility for compliance with all these provisions is left solely to the user. LinkedIn's policy acknowledges that whereas personal information the user provides will be secured in accordance with industry standards and technology, the Internet is not a 100% secure environment, consequently there is no guarantee that information may not be accessed, copied, disclosed, altered, or destroyed by breach of any of their physical, technical, or managerial safeguards. The YouTube Team (2012), on the other hand, states that every community that features on its platform involves a certain level of trust. The customer is therefore expected to be responsible as millions of users respect that trust. The policy advises users to know that YouTube works closely with law enforcement agencies.

8. Gaps in social media user policies

The social media environment reviewed reveals several gaps that leave room for infringements on users' legitimate rights, as a result of service providers' inaction, technological inefficiencies, predatory behaviour, lack of government policy intervention, exclusive rights of social media service providers, user abuses or users' outright criminal behaviour. The following acts of commission and/or omission within social media environments should be of ethical and moral concern:

- All social media platforms rely on user trust to achieve compliance with policy provisions.
- Users have no say in policy-making processes that affect their interactions in social media environments.
- There are hardly any government policy interventions with regard to social media, especially in the developing world.
- No provision is made by service providers for compensation when users' rights are violated.
- LinkedIn acknowledges that prevention of illegitimate access, copying, alteration of users' information cannot be guaranteed. It also tracks its clients' activities and uses clients' information for advertisements.
- All social media service providers require users to indemnify them from any liability arising from use of their platforms.
- All social media service providers are required by law to disclose clients' information should a court of law request such information.
- None of the social media service providers have any effective means of verifying the integrity, reliability, accuracy and authenticity of information provided by clients.
- Clients' information is still held for some time with servers of service providers after users have deregistered their membership.

The preceding analysis of the social media use policies reveals that users have limited protection of their rights while interacting in a social media environment. Collymore says no-one is safe on social media because some people use it to spread rumours, release naked pictures, or just poke fun at a celebrity. Lundsay (2010) observes that social media can be misused in many ways, such as wasted work time; misuse of company resources; risk to company computer systems, network or data; disclosure of confidential or other non-public information; disparagement or harassment; conflicts of interest; espionage or fraud; privacy and damage of personal reputation.

9. Ethics of social media use in politics and government

The increasing use of social media in politics and government is raising a number of ethical and moral issues that need to be addressed. The release of WikiLeaks by Julian Assange, the founder, in 2010 raised animated debates and criticism in equal measure for revealing sensitive information such as reports about war in Iraq and classified US military information. The US Secretary of State Hilary Clinton called the release of US secret reports on the war in Iraq an attack on US foreign policy interests and the international community (National Public Radio, 2010). The US Attorney General Eric Holder announced an ongoing criminal investigation into the leaks and those responsible. WikiLeaks called its revelation public disclosure (whistle-blowing), arguing that the public has a right to know what its government is doing. Those against WikiLeaks aver that secrecy is not a bad thing since releasing secrets puts lives at risk, while others think the ethics of revealing secrets lies in the nature of what is being revealed (Radford, 2010; Somerville, 2010). The debate about the ethics of WikiLeaks is so complex that it would distract the focus of this article to be covered in depth. There is

perhaps a need to revert to the fundamentals of ethical theories to help provide a systematic approach and understanding the debates surrounding WikiLeaks.

10. Ethical dimension of Information Society: Implications for Africa

Africa has unique challenges of an ethical nature in the Information Society. Capurro (2010) observes that ethics, in general, and Information Ethics in particular, is a young academic field in Africa. He attributes this to the fact that not much has been published on the role that African philosophy can play in thinking about the challenges arising from the impact of ICTs on African societies and cultures. Capurro (2008) further points out that because ubuntu principles have underpinned the African Renaissance, Black Economic Empowerment, corporate governance and conflict resolution, similar principles or philosophies should be foundational to the African ethical and moral traditions. The widely used Eurocentric ethical traditions such as consequentialism, deontology and virtue-based theories do not sit well with African traditions. Ocholla (2011) explains that consequentialism emphasises outcomes, while duty-based theories or deontology emphasises rules. Virtue-based theories, on the other hand, place emphasis on the character of the personal moral agent. The dominance and use of Eurocentric ethical traditions in studying African philosophy is being challenged by African scholars who realise that African ethical and moral traditions cannot adequately be investigated or studied through an exotic lens.

The quest for harnessing Information Ethics tradition in Africa is gathering pace catalysed by the WSIS Action Line C10. However, the technological revolution brought by mobile communication and now social media, is taking place in an environment where there is little integration of Information Ethics in the education curriculum (Mutula & Braman, 2011). Conway (n.d.) observes that the field of scholarship and teaching of Information Ethics is concentrated in developed economies such as Germany, Japan, the United Kingdom and the United States, with Africa lagging behind. The laggard position of Africa with regard to Information Ethics has caused African scholars to make proactive attempts to infuse Information Ethics in the education curriculum, especially at the university level. Besides Information Ethics, ethical aspects of e-Government in Africa have been extensively discussed by African scholars and recommendations have been made to national government for action. The first African Conference on Information Ethics was held in February 2007 in Tshwane, South Africa, to discuss the impact of the use of modern Information and Communication Technologies (ICTs) on the African continent. This was followed by the high-level Workshop on Ethics and e-Government in February 2009 that was held in Pretoria and addressed, among other subjects, global perspectives of Information Ethics with regard to transparency, secrecy, trust, rights, responsibilities, and accountability. The third Information Ethics forum followed and was held at the University of Botswana in September 2010, resulting in the development of an Information Ethics tool kit for the Information Ethics curriculum. The fourth forum of Information Ethics in Africa was held in September 2011 at the University of Pretoria focusing on generating an Information Ethics curriculum for undergraduate study at the university (Mutula, 2011). The fifth workshop on Information Ethics focusing on social media was held in Nairobi, Kenya, on 3 June 2012. The sixth conference followed on 3 - 7 September 2012 at Kievits Kroon Conference Centre, Pretoria, which further elaborated on the responsible use of social media in Africa.

Despite the current efforts to institutionalise Information Ethics in Africa, there is also a raging debate about the prudence of focusing on 'African Information Ethics' and/or 'Information Ethics for Africa'. Ocholla (2011) poses the question: "Should African Information Ethics be unique"? In contrast, Gordana and Hofkirchner (2011) ask: "Are computing ethics issues unique or are they simply moral issues that happen to involve ICT?" Carbo (n.d.) asserts that each individual belongs to a number of different cultures at different levels, such as living in one country; speaking different languages; and

adhering to policies and practices of different religions and political parties. Gorniak-Kocikowska (1996) argues that the diverse ethical systems embedded in other cultures of the world all derive from local histories and customs and are unlikely to be applicable worldwide. Mason (1986), while underscoring the importance of intellectual property, regrets that current protocols regarding legitimate rights of the people have not effectively espoused indigenous knowledge. Hoesle (1992) states that computerised information systems' use requires people to act and think in prescribed ways that privilege Western cultural traditions because of the origin of computers in these cultures, while marginalising the cultural traditions of others. Capurro (2010) observes that sensitivity to a diversity of cultural traditions and local contexts is needed when considering the impact of ICTs.

Floridi (1999) points out that the Information Ethics theory of 'macro-ethics' was designed to address all ethical situations in all traditions. Floridi's argument is that everything which exists can be described as an information object and that all information objects have intrinsic value and therefore deserve moral respect (Brey, 2008). However, this viewpoint has been criticised because since people do not normally seem to assign intrinsic value to information objects, strong arguments must be adduced for us to start valuing them as such (Brey, 2008). Besides, Floridi fails to provide an objectivist ontology for information objects' properties because, as Brey (2008) points out, such information properties must be inalienable and not subjective and contingent. Floridi's macro-ethics therefore falls short of a universalist theory and is not suitable in explaining and studying 'African Information Ethics'.

Therefore, current efforts by African scholars to entrench Information Ethics in the education curriculum, founded on African traditions, are well intentioned and could go a long way in re/validating indigenous ways of thinking which, hitherto, have been overshadowed by the continent's colonial past and Eurocentric or Western ethical traditions such as that of Floridi. Through the ongoing debate on 'African Information Ethics' and/or 'Information Ethics for Africa', African scholarship has a unique opportunity to solidify a knowledge system based on African realities in the Information Society. However, the aim should not be to isolate African values from the global culture, but rather to develop Information Ethics models that have wider applicability and validity beyond national, regional and continental boundaries. The Information Ethics models for Africa should be founded on African values but remain alive to the diversity of African culture, individual country needs and the international sensitivities.

The peculiarity of Africa in the Information Society with regard to the ethical concerns and issues raised in this chapter about the responsible use of social media platforms requires multipronged interventions. Africa is vulnerable to ethical and moral breaches with regard to the use of ICTs, in general, and social media in particular, because of its diverse cultures, languages and people; the novelty of emerging information and communication technologies; and poorly developed technology and policy infrastructures. During the official opening of the second Information Ethics Conference in Gaborone, Botswana, on 6 September 2010, the Minister for Transport and Communication, Hon. Frank Ramsden, urged the participants to interrogate policy and infrastructure concerns facing the African continent. In particular, he highlighted policy issues facing national governments in Africa in achieving universal access to digital networks and computing technologies and also the use of ICTs as a strategic tool in economic development and governance. He noted that socio-cultural, political and economic differences across countries in Africa required prudent approaches to address them. This view was also shared by Capurro (2010) who added that sensitivity to a diversity of cultural traditions and local contexts was needed when considering the impact of ICT in Africa. Besides, Africa could, while not completely espousing the models from the West, learn from the United States, Canada and Germany regarding how these jurisdictions are dealing with ethical and moral issues relating to the application of ICT in the Information Society. For example, in these jurisdictions, the claim to privacy is protected in a variety of different ways through various statutes. In the United States, for instance, the claim to privacy is protected primarily by the First Amendment on

guarantees of freedom of speech and association.

The annual WSIS forum established to monitor progress being made in the context of Action Lines (of the plan of Action) provides a framework for examining emerging issues of ICT use, including ethical aspects in the Information Society. This forum makes appropriate recommendations for action by national governments. For example, the May 18, 2011 WSIS forum on Cyber and Information Ethics: Freedom & Security, Privacy, Malice & Harm, Property (UNESCO & WSIS 2011) was convened as part of Action Line C10 to provide the opportunity to interrogate the ethical dimension of social media, especially the design of information systems, which may impede the creation of just, peaceful, inclusive societies and the full expression of human rights. Issues around trust and the control of and use of personal data, particularly bio-data, were also examined, as was the presence of new threats to human freedoms. The ethical dimensions of ICTs have also been addressed through Action Line C3: Access-ICT and Persons with Disabilities; Action line C7: E-learning: Teachers Count; Action Line C8: Indigenous peoples and education; and Action Line C9: Media Regulation: Broadcasters and Social Media. Collectively, the efforts being made through these Action Lines should by and large guarantee ethical and moral compliance by users while interacting in social media environments.

Scholars and other stakeholders should debate and engage in open dialogue on the ethical and moral issues in social media and develop appropriate interventions. The Communication and Media Research Institute (CAMRI) (2012) points out that the Arab Spring (earlier referred to) that culminated in the overthrow of repressive regimes in the region was catalysed by social media and brought to the fore manifestations of tension and struggle among governments, citizens and terrorists, which calls for debates on social transformation in the context of new media and ICTs.

Lindsay (2010) says that social media is a challenging topic because it crosses over so many ethics and compliance issues. However, like any other ethics and compliance topic, it can and must be proactively managed. UNESCO (2008) states that promoting ethical aspects and principles that espouse creative multilingual content and universal access to information and communication should be encouraged among users and service providers. Policies to enhance ethical values in social media environments should provide commitment to the free flow of information. The dialogue and debates that have been aroused by the African Network for Information Ethics (ANIE), since 2007, should be encouraged and supported.

11. Conclusion

This chapter set out, through literature reviews and content analysis of social media user policies, to discuss issues and debates around the responsible use of ICTS in the Information Society, as enunciated by the World Summit on Information Society Action Line C10. The emphasis was placed on social media because it is the latest powerful online activity that results from the convergence of various technologies, especially the Internet, the computer and mobile phones. Four aspects were addressed in this chapter, namely 1) responsible use of ICTs in the Information Society; 2) social media contributions to the Information Society; 3) ethics and social media and 4) the ethical dimension of the Information Society. The chapter generally asserted that the laggard technological adoption behaviour that characterised Africa and its people for many years is gradually giving way in the wake of new technologies epitomised by social media. The chapter demonstrated that social media has gained acceptance and use in education, research, business, government, politics, professional practice, and in the general society, thus raising several ethical issues such as protection of users' rights, user privacy guarantees, methods of enforcing compliance with the policies, user compensation when rights are violated, sanctions for errant users, verification of the credibility of information uploaded by users, role and responsibilities of users, cybercrime, user training, and more.

It was found that cultural practices in Africa form part of the daily norms of the people and ethical issues in the use of new technologies needed to be debated while taking cognisance of this fact. The chapter established that Africa does not seem to have any clearly documented ethical and moral traditions. Consequently, African scholars are advocating an African philosophy that will underpin ethical behaviour in an Information Society. The chapter proposed multipronged approaches to address ethical issues in the Information Society such as government providing an enabling policy and legal environment for dealing with ethical breaches; training of users on the responsible use of ICT by service providers; the use of more enhanced technological tools to make the Internet a safe and secure place; effective and rigorous monitoring of online behaviour by service providers, etc.

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Chapter Five

Ethical Implications of Intellectual Property in Africa

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1. Introduction

This chapter examines ethical issues emerging from 'propertisation' of information or ideas. It also addresses the implications for introducing, applying and enforcing Intellectual Property (IP) laws in Africa, which prior to colonisation had no culture of IP protection. In so doing, conflicts arising from the collision between African socio-economic and cultural issues on one hand, and Western IP systems and values on the other, are examined. More than ever before, IP impacts on all aspects of human endeavours including access to information, medicine or healthcare, democracy, security, freedom of expression, intellectual freedom, privacy and a host of other human rights issues. As citizens, we encounter or interface with IP on a daily basis, consciously or unconsciously. While the focus of this chapter is on the African context, it should be noted that the ethical issues arising from the contradictory nature of the modern IP system go beyond Africa. Therefore, this chapter is an attempt to localise as well as globalise the ethical challenges emerging from IP. Indeed, some of the ethical issues arising from IP are the subject of intense reform processes of the international IP system at the World Intellectual Property Organization (WIPO) known as the Development Agenda (DA). WIPO is a specialised agency of the United Nations (UN) primarily responsible for the regulation of IP internationally.

Before we discuss the specific ethical issues arising from IP and IPRs, it is imperative to briefly discuss the theoretical and conceptual issues underlying IP as well as the different areas of IP law (also known as Intellectual Property Rights (IPRs)). The theoretical and conceptual issues are followed by a discussion of three areas of ethical concerns surrounding IP in Africa. These are the issues of Africans exploiting traditional African resources and expressive cultures; IP, Biopiracy and patenting of Africa's biodiversity and, finally, IP and access issues in Africa.

1.1. IP Conceptual and theoretical issues

Today, more than any other time in the history of mankind, information is part of every human enterprise, so much so that society is characterised as an information or knowledge society. We also encounter labels such as networked society. What is apparent today in comparison to past societies is the increasing use of technology and reliance on information. Generally, there is emphasis on the centrality of information and/or prevalence of information goods and services in economic and social spheres. We also find emphasis on information workers or knowledge workers in the information economy. As such, there is significant importance attached to what the WIPO refers to as the 'creations of the human mind' also known as Intellectual Property (IP).

Intellectual property is intangible property resulting from creative minds and/or innovation. However, the notion of creations of the mind being characterised as property is a highly controversial proposition as variously noted in this chapter. This is so because unlike physical property, IP entails a wide range of information-related goods and services or 'kinds of property'.

Likewise, the laws and regulations designed to create, regulate and/or protect this kind of property are numerous and varied. Collectively, the laws are referred to as the Intellectual Property Rights (IPRs).

Under no circumstances can a single chapter exhaustively discuss a broad and far-reaching subject matter like IP, moreover examining the ethical implications in the Africa context. Nonetheless I attempt to briefly but informatively introduce the main areas of IP before examining their ethical implications for Africa. The main areas of IP discussed in the chapter are patents, copyright and neighbouring rights and trademarks and trade dress.

2. Areas of IP¹

2.1. Patents

Patents are legal instruments that grant the owner of 'new' innovative, novel, un/non-obvious and commercially viable ideas the right to exploit the ideas without fear of exploitation by others. The owner is granted exclusive rights in exchange for disclosure of the ideas. It is envisaged that such disclosure allows others to develop the ideas further into new 'patentable' ideas and/or can be licensed by the owner to exploit an existing patent. Normally the patent is granted for 20 years, after which it falls into the 'public domain'. Public domain means no one has control or ownership over those ideas and, as such, they can be exploited commercially, or otherwise, by anybody with the means to do so. This is a fairly simplistic description of an otherwise complex and wide area. It is important to note, though, that the patent system is possibly one of the oldest if not the oldest form of IP and IPR. Related to patent are utility models and industrial designs. Often these do not necessarily meet the 'novelty' standards required of patentable ideas and as such tend to be protected for shorter periods in comparison to patents. These usually represent ideas under development that will eventually lead to patenting.

A patent must be applied for through a national patent office such as the Kenyan Industrial Property Institute (KIPI) or the Department of Trade and Industry Companies and Intellectual Property Commission (CIPC) which regulates patents in South Africa. Once approved, a patent is protected and enforceable in the jurisdictions of the patent office. For instance, a patent filed and approved by the KIPI or CIPC will apply to Kenya and South Africa respectively. Beyond that, there are regional organisations like the African Regional Intellectual Property Organization (ARIPO) which registers patents from a number of English-speaking African countries². The equivalent to ARIPO for francophone Africa is Organisation Africaine de la Propriété Intellectuelle (OAPI)³. WIPO also administers the Patent Cooperation Treaty (PCT). PCT is a system for filing international patents and protects the patent in over 125 countries that are signatories to the PCT. However, much as the filing is done through WIPO and the PCT, the actual granting of the patent is by a national or regional patent office where the filer is located.

Briefly that is what patents are about, but I revisit the topic in greater detail especially in relation to the ethical challenges of patenting software and biotechnology products. These are probably the most controversial areas of patent today in Africa and elsewhere.

2.2. Copyright and neighbouring rights

Copyright and neighbouring rights are related to patents in the sense that protection is granted for

¹ For a brief overview of IP, see <http://www.wipo.int/about-ip/en/>.

² See ARIPO website for details about the organisation, its mandate and scope of work: <http://www.aripo.org/>.

³ See OAPI website: www.oapi.int.

creativity but for reasons and mechanisms slightly different from patents. Copyright is different because it protects ideas 'expressed' in some 'physical' form unlike patent rights which protect ideas themselves.

Copyright serves a dual purpose. First, it serves as a reward for creativity (reward creative individuals) providing an incentive for creativity as a return on intellectual capital. Second, it facilitates access and use of information and artistic resources resulting from creative endeavours. As such, it facilitates the sharing of intellectual capital so that it can be built upon by others.

Copyright, therefore, protects works of 'authorship' which must be expressed in some form such as a book, journal article, web posting, software code, etc. Copyright grants the 'author' a set of exclusive rights on activities like:

- (i) Production and reproduction
- (ii) Distribution/dissemination
- (iii) Public performance/display
- (iv) Adaptation
- (v) Format conversion
- (vi) Translation
- (vii) Public lending rights (right to authorise/prohibit the public lending of published copyrighted work)

Neighbouring rights refer to rights derived from adding value to works originally protected by copyright. Such rights include the right to do a public performance which might be based on a work originally copyrighted and owned by another party other than one involved in the public performances. Neighbouring rights are not necessarily part of the copyright regime in all countries or jurisdictions. Neither are they always appended to the copyright law.

Copyright is potentially far more complex than other areas of IP because it covers a wide range of areas including but not limited to:

- books, pamphlets and other writings
- lectures, addresses, sermons
- dramatic or dramatico-musical works
- choreographic works and entertainments
- musical compositions with or without words
- cinematographic works and cinematography
- works of drawing, painting, architecture, sculpture, engraving and lithography
- photographic works
- works of applied art, illustrations, maps, plans, sketches and three-dimensional works relative to geography, topography, architecture or science
- translations, adaptations, arrangements of music and other alterations of a literary or artistic work, protected as original works without prejudice to the copyright in the original work
- collections of literary or artistic works such as encyclopaedias and anthologies based on the selection and arrangement of their contents

Technically, this means copyright regulates industries as diverse as music, software, publishing, architecture, art, among others. That necessarily makes it difficult to find agreement where there are disagreements and there are many, as we will find later in the chapter.

The ideas expressed in a copyrighted or protected work can be copied and/or used without repercussions as long as certain conditions are met. For instance, acknowledging the original author evident in the academic traditions of citation and referencing or limiting how much is copied as the case is with copying or reproduction using photocopier for academic purposes. The latter is often permitted without recourse or permission from the copyright owner, the author or rights holder by the 'fairness' provisions popularly known as fair use. Fair use is a doctrine in the US Copyright law (§

107) but slowly making its way into copyright laws of some African countries, most notably Uganda's Copyright and Neighbouring Rights Act, No.19/2006.

Unlike patents, copyright is generally automatically granted to works of authorship. Even as I wrote this chapter, copyright was automatically granted to me regardless of whether what I have to say in the chapter is novel or creative. As long as I am not copying someone else's writings or works, the content in the chapter is automatically protected. The creativity in the chapter probably comes about with the arrangements of these ideas (which are not new at all), what I have to say and in which context. The question of novelty of these ideas is for the patent area, not copyright law. Copyright is generally protected for about 50 years upon or after the death of the author but in many jurisdictions that can extend to 70 years or even 100 years in other countries. Copyright is administered by copyright offices like Burkina Faso's Burkinabé Copyright Office (BBDA). While copyright is granted automatically, 'authors' are encouraged to register their works with the copyright offices or regulators. Registration can be useful in case of future litigation.

2.3. Trademarks and trade dress

Trademarks are words, signs or symbols associated with and used to identify a product, company and/or goods and services. Inherent in the words, signs or symbols is the quality of the manufacturer or reputation of the originating firm, company or organisation which ought to be protected to avoid duplication of the goods by others as if they are the same goods made by the legitimate entity. Trademarks partly address problems like those caused by counterfeit goods, the majority of which are copycats that imitate popular and widely available brands. Related to trademarks are trade dresses that relate to the visual appearance of a product which in some circumstances can uniquely identify that product. The 'dress' or dressing in this case is a form of intellectual property since it is intimately associated with a product. Another area of IP related to trademark and of significant importance and relevance to Africa is that of geographical indications (GIs). GIs are a form of intellectual property that identifies or associates a product with a particular region, place or part of the world or country. South African wine is uniquely identified as such and by so doing associated with the quality of wine from South Africa. At times even identifying a wine as South African is misleading since there are many wine-producing parts of South Africa. In that case, wine from Cape Town will be uniquely identified as such.

There are many areas of IP that we cannot possibly cover all in a single chapter. Many more emerge every few years as technological changes and innovation warrant the creation of new forms of protection, not mentioning the quest for new forms of investments. Mentioning technology and the contemporary focus on the so-called information revolution as responsible for the interest in intellectual property is misleading because IP has a fairly long history. As noted later, the history of contemporary IP systems is deeply rooted in the European industrial revolution and enlightenment philosophy.

3. 'Author' or authorship and originality

Having looked at some of the main areas of IP, it is worth examining some of the building blocks of the IP systems, their underlying assumptions and resultant contradictions. These further confirm the fact that the ethical problems raised by IP are not uniquely African, although they are probably more pronounced in non-Western settings like Africa.

The contradictory nature of IP in Africa and elsewhere stems from the assignment of exclusive IP ownership rights to the 'author' who, presumably, makes 'original' contributions. Authorship and originality both present challenges to the collectivist or communal ethos and ownership that existed in traditional African societies (Kuruk, 2002; Amegatcher, 2002). Boyle (1997) argues that given the problem of information, which is the basis for all forms of IP, the modern IP system had to devise

principles around which the system could be built. Without these principles, the underlying contradictions threatened to undermine the very notion of information as property. The two concepts of originality and author (or authorship) were only devised and have not always been part (and parcel) of the intellectual property system.

Originality in the context of IP assumes or communicates newness or something unprecedented. Indeed an original idea is one that has not existed before. It is a romantic notion because normally it is difficult to create something entirely new. Often what is considered new draws from existing ideas. Originality in this case creates the impression of newness and not necessarily ideas that are appropriated from an existing knowledge base, the common, shared or public resources. Boyle (1997) and other critics of the modern IP system find that troubling.

The author or authorship is another important linchpin or principle on which the modern IP system rests. The author is perceived and portrayed as that person or entity that engages in creative activities, the result of which is new and original ideas. The newness and originality are the basis for assigning that person property in the ideas or expressions of the ideas. The concept of author has been studied possibly more than any other aspect of IP, largely due to its centrality to the system as a whole. Hesse (2002) documents the historical account of the notion of authorship. In essence, we can arrive at one conclusion: that the principles under which the modern property system is based, especially the author or authorship, have evolved over time and have not always seemed settled as they are presented today. For instance, the "Ancient Greeks did not think of knowledge as something that could be owned or sold" (Hesse, 2002:26). Likewise the Chinese, especially their great philosopher Confucius, perceived the author and authorship as involved or involving transmission rather than creation, more so original creation.

Given the above, what is the issue or what is the problem Boyle and others see with the current IP system? It is not that 'authors' or authorship ought to be discarded from IP lexicon or vocabulary. Certainly it is not that it is unnecessary to think of authors as engaged in creative processes and, therefore, making meaningful contribution to innovation and creativity. Instead, it is the notion that some of these concepts and principles are presented by some as settled, theoretically and philosophically, and therefore infallible. Yet we know that the nature of information as the basis for property is contradictory or even problematic. Indeed Boyle (1997) argues that often copyright is considered and presented as a settled or stable aspect of law without need for constant reviews or reforms as other areas of law. That is erroneous and disingenuous. Boyle argues that, in fact, IPR is only an attempt to resolve the contradictions and tensions underlying information in the market place and information itself as a basis for creating information properties. There is a need to examine important questions like: how can IP which is "right-oriented and utilitarian" (Boyle, 1997:51) be the sole basis for resolving the role of information in the market place and/or information goods and services in the market place? How can information-based property be property when others cannot be excluded from it? In fact, does it even make sense to talk about an author or authorship or originality as if they are involved or involve new ideas or forms resulting from transformative processes? Does property in information diminish or threaten to diminish the common pool (public domain) since the 'author' must draw from common resources (language, ideas, culture, humour, genre) to claim or be afforded monopoly or exclusive rights? That is, will copyright (IPR in general) lead to a general depletion of new ideas or new information? How can the law (IP law) avoid or overcome the contradictions and complexities presented by information? These questions point to legal, ethical as well as theoretical problems surrounding the modern IP system. What is most important is that they transcend IP in most of Africa. In Africa, which historically or traditionally had no IP system in the 'Western' sense based on the 'author' or 'originality' but collective or communal ownership and creative systems, such questions and contradictions are more pronounced than where the IP system has been implemented and evolved for several hundred years.

4. IP in Africa and ethical issues that emerge

In the African context, contemporary IP systems are closely associated with European colonial adventures on the continent. As part of the colonial set-up, traditional African societies and systems of property ownership, which were predominantly communal or shared, were reorganised to fit the 'European' conception of intellectual property ownership that existed at the time. The European approach to property ownership was primarily private individual and public ownership (Beyaraza, 2004:139). The post-colonial legal systems around property, physical or otherwise, rendered pre-colonial systems of ownership, or lack thereof, repugnant. As such, the notion of creating private property out of intangible forms or resources that were previously shared, proved problematic and continues to date. It should be noted that this controversy was not only necessarily unique in Africa but also in Europe where the IP system originated. Therefore, given that the idea of creating property is deeply rooted in Western European civilisation and Western societies and not necessarily understood or accepted in different African societies, raised serious social, legal and ethical concerns arising from the application of IP regime in sociocultural and economic context inconsistent with Western settings where IP originated and had undergone years of changes.

Given these historical contradictions, it comes as no surprise that in the African context the subject of IP raises more ethical questions than legal or policy concerns. According to Braman (2009:246), "ethics leads to policy, which leads to law, which leads to ethics, and so on". Therefore as we examine the legal field of IP, in most of the African context we cannot but often fall back to ethical issues underpinning IP law and the means or manner in which IPRs or laws were introduced and applied in the African context. The rest of this chapter is dedicated to examining the different ethical issues arising from the use or application of IPRs in Africa. Specific areas of IP law and African resources are used to illustrate the ethical issues that emerge, starting with copyright and expressive cultures, followed by patent, biopiracy and access to medicine and, finally, copyright and access to knowledge. By no means do these cover all areas of IP law and the emergent ethical concerns. They are selected to provide snapshots of ethical issues emerging from the application of IP law in Africa.

4.1. Africans exploiting traditional African resources and expressive cultures⁴

In Africa, the above theoretical and philosophical contradictions are evident in the tension that exists between traditional collectivist or communal ethos and the post-colonial state laws that sustained the colonial legal regime including that relating to IP. In many places, customary legal systems and/or values persist today, often in direct conflict with Western common or civil law systems. The problem is that many creative individuals in Africa with roots in traditional societies and drawing from traditional resources, have to work and exist in legal and economic environments largely based on Western legal systems. For instance, Africa's traditional musicians have to acknowledge the collective values dictated by the customary laws, practices and values of their communities. They also live and work in socioeconomic environments increasingly rooted in values that are different from or at odds with those of their traditional communities (Kawooya, 2010). The nature and consequences of subjecting traditional resources to Western IP systems is one of the serious legal as well as ethical problems facing the introduction and application of IP and IPRs in Africa.

Customs and customary practices form the core of many traditional African societies. As such, they are at the centre of issues around ownership of expressive forms like music, dances, and

⁴ This section draws extensively from the author's doctoral research dissertation completed in 2010, titled "Traditional Musician-Centered Perspectives on Ownership of Creative Expressions". Available at http://trace.tennessee.edu/utk_graddiss/711.

folkloric resources in general. Historically, customs in Africa were recognised sources of law and guiding principles for the harmonious existence of communities. Today, customary practices remain integral parts of traditional societies in Africa and/or part of the 'mainstream' national legal infrastructure. Notwithstanding challenges associated with customary laws and practice, customary laws and practices provide the framework for defining and assigning ownership of 'intellectual property' in expressive cultures (Kuruk, 2002; WIPO IGC, 2001). Therefore, understanding of customary laws, values and practices is a prerequisite to examining ownership of traditional expressive forms in contemporary settings. On the other hand, examination of customary practices is incomplete without accounting for ways in which expressive forms, including traditional music, are conduits for teaching customs to the young and old in formal and informal settings of traditional communities (Amoaku, 1982; Euba, 1988 and Horton, 1980).

Kuruk (2002) argued that Africa's customary laws and practices do not necessarily address ownership but rights, obligations, responsibilities, duties or privileges assigned to individuals or groups like clans in the community. Often these rights were, and in some cases still are, assigned to individuals in trust for the community at large. The individual in the customary context is not to be confused with the individual or 'author' we noted in the modern IP system. Kuruk (2002:7) cites numerous cases of rights segmentation including "the recitation of oriki, a praise singing poetry among the Yoruba in Nigeria," that was "restricted to certain families". Likewise, "among the Lozi in Zimbabwe, each traditional leader has his own praise songs containing both historical lore and proverbial wisdom that are recited on important occasions by a select group of bandsmen" (2002:7). He observes that "in some communities, precise rules govern who can make, or play certain musical instruments, at what time and for which reasons. Thus, the great national drums of the Lozi which are beaten only for war, or in national emergencies, are kept under the watchful eyes of a special council of elders" (2002:7-8). Assignment of special rights, duties and responsibilities as the ones cited above is an honour to the groups and individuals in question. However, the rights do not constitute private ownership but custodianship on behalf of the larger community. Kuruk draws examples of such special privileges from Uganda where "each Baganda king in Uganda has a select group of drummers who play special drums to ensure the permanency of his office. Among the Bahima of Uganda, only women keep harps while the Banyankole authorize only women to make harps which they use at home. Among the Baganda, fifes are owned by and played mainly by herd boys" (2002:7-8). The question necessarily is how do customary laws and practices bind individuals and groups to these collective values, moreover in contemporary times when such laws and practices must co-exist with Western IP systems?

Kuruk's account of customary laws and practices in Africa throws light on the customary forces that bind individual and community members on the basis of kinship. Kinship is often realised through family lineage and/or clan membership where family members are accountable to family heads who in turn account to clan leaders. The leaders are themselves accountable to a higher leader, the tribal leader or king/chief. Kuruk further notes that sanctions for going against established rules are severe, ranging from "censure, to fines, to ostracism or even expulsion from the group" (2002:9). The severity of the sanctions deterred members from engaging in unacceptable conduct. Oftentimes offenders would bring shame or punishment to their families, lineage or clans, hence the notion of collective responsibilities. Due to collective responsibility, everybody is accountable for the actions of another so that "all clansmen are responsible for the actions of other clansmen and are required to protect them" (Kuruk, 2002:10).

In context of ownership of expressive forms, deviance from collective values such as personal claim to music was unheard of. Any attempt to make such personal claims often attracted punishment for the individual, his/her family and/or the group to which the musician belonged. Kuruk observes that collective responsibility applied to sanctions but also effectively pre-empted the "unnecessary

wrongdoing because of the inherent belief that any offense committed by clansmen would be avenged against any member of the clan” (2002:10). By implication, traditional musicians as entertainers in traditional communities would protect each other from offending collective rules and practices. Today these values still bind musicians who stake claim to traditional communities. Unlike in the past, however, enforcement of sanctions varies from community to community.

Kuruk further notes that customary laws tend to be flexible in the light of socioeconomic and political changes. He notes that “it [customary law] has adjusted to such influences as the introduction of European and other foreign legal systems in Africa, urbanization and the growth of a money economy” (Kuruk, 2002:6-7). Flexibility of the customary systems is the more important today for the socioeconomic welfare of traditional creative individuals and, by implication, the very survival of traditional expressive cultures for the groups in question. Dynamism in a customary legal system is best illustrated “in customary rules about land ownership where it is now possible to own land individually unlike earlier times where land belonged to the family as a group and no individual could own a piece of land absolutely or sell it” (Kuruk, 2002:7). Unlike physical property, however, application of customary laws to expressive forms or ‘intellectual property’ presents unique challenges due to the intangible nature of expressive forms but also the imprecise nature of the customary legal system.

Kuruk (2002) examines customary systems in Africa and the rights afforded to ethnic communities and their cultural expressions under customary laws and practices. He looks at the “nature of communal rights in folklore [including traditional music], why they are binding and how they are enforced traditionally” (2002:5). He observes that “understanding the strengths and weaknesses of folklore rights at the community level is essential to an appreciation of how the rights would be treated [...] under the statutory regimes which purport to enforce such rights in the same manner they are recognized at the community level” (2002:5). Kuruk’s analysis of customary systems and rights is based on the community as a whole. He offers no remedies to creative individuals in traditional societies caught up in environments of multifaceted approaches to ownership of creative expressions. He narrowly focuses on rights afforded to communities under customary laws. However, his work relates to the ethical issues raised by the conflict between traditional and Western IP systems because he attempts to examine ways in which customary laws can be aligned with mainstream IP regimes that attempt to address questions of traditional cultural expressions based on traditional values and practices.

Amegatcher (2002) demonstrates the mismatch between customary practices and values on the one hand, and copyright laws on the other, by highlighting the contradictions arising from subjecting traditional cultural resources to copyright laws in Africa. Traditional resources remain deeply rooted in customary practices. Amegatcher (2002:37) asserts that it was the “nature of communal property to be enjoyed by any person belonging to the particular [traditional] community”. Besides oral tradition, most traditional societies had no concept of ‘property’ in intellectual work. For instance, Amegatcher (2002:38) points out that “Ghanaians did not see the creation of literary, musical or artistic work as generating any property rights [to be owned] [...] because their own notions of property were very basic and did not include intangible things like stock and shares”. Amegatcher is in agreement with Kuruk that customary practices did not prescribe ownership but appropriate obligations or duties to individuals or groups in a given ethnic community. Duties, obligations and people’s ways of life were regulated by practices under uncoded customary laws (Amegatcher, 2002). In the context of expressive cultures and folklore in general, the duties, obligations and rights for the individuals, or the group, were the closest traditional African societies came to property rights for intellectual works.

Amegatcher’s choice of case study, Ghanaian copyright law, illustrates the precarious environments in which traditional musicians work, caused by contradictions in the framing of ownership in the traditional context. Ghana transferred protection of traditional expressive forms from

customary practices and laws to copyright. Ghana is part of a trend in Africa, and elsewhere in the non-Western world, where Western-oriented copyright laws are the preferred means for protecting traditional music and folkloric resources. Ghana took that step through the Ghanaian Copyright Act of 1985 whose Article 5 stipulates the following:

1. Works of Ghanaian folklore are hereby protected by Copyright.
2. The rights of authors under this Law in such folklore are hereby vested in the Republic of Ghana as if the Republic were the original creator of the works (Amegatcher, 2002:36).

The same law established the Ghanaian Folklore Board to:

- (i) administer, monitor and register works of Ghanaian folklore on behalf of the Republic
- (ii) administer, monitor and register works of Ghanaian folklore on behalf of the Republic
- (iii) preserve and monitor the use of folklore works in Ghana
- (iv) provide members of the public with information and advice on matters relating to folklore
- (v) promote activities which will increase public awareness on the activities of the Board, and
- (vi) promote activities for the dissemination of folklore works at home and abroad (Amegatcher, 2002:36).

Whereas the Ghanaian move was politically expedient, Amegatcher contends that the copyright law effectively shifted ownership and control of traditional musical resources from their customary context to the state. Traditional communities tend to be suspicious of state institutions assuming jurisdictions over traditional expressive cultures. The state is primarily interested in economic exploitation by licensing traditional resources to foreign musicians and corporate interests in the music industry. No wonder Ghana's shift was prompted by an offer from Paul Simon for a popular Ghanaian tune "YaaAmponsah" (Amegatcher, 2002).

A response from Ghanaian musicians disapproving of government actions was promptly issued through their representative organisation, the Committee on Misgivings of Music Industry Practitioners (CMMIP):

It is unfair that Ghanaians are not exempted from paying for the use of Ghanaian folklore which is a heritage collectively bequeathed to all Ghanaians by their forebears. The Committee is therefore vehemently opposed to Ghanaians paying any fees or getting permission to use Ghanaian folklore as stipulated under this section. What the proposed Bill is saying, in effect, is that a Ghanaian weaver must seek permission and pay to weave kente or a writer to use KwekuAnanse stories in screen plays (Amegatcher, 2002:36).

As the first African country in Sub-Saharan Africa to attain independence from European colonialists, Ghana exploited ethnic cultural resources in the struggle for independence. The state in Ghana also used it to create a sense of nationalism in post-independence Ghana. However, the current policy of cultural nationalism in Ghana best illustrates contested authority over cultural resources in the contemporary African settings. Contestations serve to complicate ownership and control of traditional cultural expressions.

Kuruk (2002:21) agrees with the CMMIP in observing that "it is palpably wrong to use intellectual property criteria to invalidate customary law rules because folklore is so inconsistent with intellectual property law that prescribing an incompatibility test by reference to intellectual property statutes means the virtual abolition of rights in folklore". Differences between customary practices and laws, on the one hand, and intellectual property laws on the other, subject traditional expressions and creative individuals to multiple sources of law and authority on ownership of traditional music. On the one hand, as members of ethnic communities contributing to their cultures, musicians remain bound by customary laws and practices. On the other hand, intellectual property statutes fail to accommodate the rights to their works on grounds that they draw from traditional resources. Where traditional musicians are covered by national laws, such laws are inconsistent with customary

practices. Countries that attempted to integrate customary laws into the mainstream legal systems have since abandoned the practice, besides constitutional mention of customary practices. Other countries have never found it necessary to explore those options (Kuruk, 2002). Instead, many, including Senegal, Tanzania, Ghana, Nigeria and Uganda, have brought traditional resources in the ambit of Western-based intellectual property legal systems as folklore (Amegatcher, 2002; Kuruk, 2002 and Nwauche, 2005). On the broader issue of traditional or indigenous knowledge, South Africa recently passed the Protection of Traditional Knowledge Act which effectively amended existing IP laws to include protection for traditional or indigenous knowledge and resources. The Act has been criticised for nationalisation of traditional resources similar to the Ghanaian Board. It has also been criticised for working within existing IP laws which are imperfectly fit for traditional knowledge and resources.⁵ The collective ethos of traditional communities in Africa means that a traditional musician claiming individual ownership of a traditional piece of music goes against the collective customs and cultural values of the community. With ownership of traditional music in the balance, musicians may not easily live off their music for they cannot claim new forms they create as personal property. Some argue that individual ownership of works of an intellectual nature, as opposed to the collective approach, creates monopolies threatening its continued production (Gibson, 2004). The oral nature of most African societies meant that over time, the origins or contributors to popular folkloric materials like folksongs were lost from the community's collective memory. Hence, the widely held view that expressive forms in traditional African settings were never ascribed to an individual but to cultural or ethnic communities in general (Amegatcher, 2002; Githaiga, 1998).

The above environment raises a few ethico-legal questions. First, does the subjecting of traditional resources previously or currently held collectively by traditional societies undermine the continued production and/or protection of such resources, especially when exploited by creative individuals with roots in the same societies? As such, is the modern IP system in Africa pitting Africans against fellow Africans depending on which side of the creative processes one belongs? Does that explain emerging disagreements amongst Africans on the nature and scope of IP protection in Africa, with some agitating for more protection while others dismiss the system as inherently flawed and foreign to Africa's collectivist ethos? These are important legal and ethical questions likely to shape the nature of IP discourse in Africa for years.

4.2. IP, Biopiracy and patenting of Africa's biodiversity

While the ethical issues arising from the intersection of copyright and Africa's expressive culture mentioned in the preceding section predominantly focus on Africans such as contemporary traditional musicians as actors in the IP system, especially traditional societies attempt to protect their resources in an IP environment based on both Western IPRs and the customary laws and practices. The area of biopiracy and biodiversity largely focuses on exploitation of African biodiversity and resources by foreign or outside entities or individuals, often in ways contrary to how traditional African societies related to and exploited the same resources. The intersection between IP and biopiracy and biodiversity is the subject of intense international negotiations and instruments, given the gravity of the underlying problems.

Biopiracy refers to the appropriation of natural biological materials for commercial purposes without any or reasonable compensation of the people or community in question. Often the appropriation is carried out by an entity other than the 'indigenous' people or community that has relied on the same materials for years. Biopiracy is usually preceded by bioprospecting, which involves systematic discovery of biological materials with a potential for commercialisation, say for medicinal purposes. Normally 'bioprospectors' rely heavily on the indigenous people or communities

⁵ For an overview and critic of the Act, see: http://siulaw.typepad.com/international_ip_policy/2011/12/south-africa-passes-the-intellectual-property-laws-amendment-bill-to-protect-traditional-knowledge-b.html#_edn9.

that have used the biological materials for years for different purposes.

Taken together, bioprospecting and biopiracy disadvantage the affected community which rarely or never benefits from their indigenous knowledge or biological resources or both. Since much of Africa is tropical, the continent enjoys a high degree of biodiversity, that is, the range and diversity of life forms in a given locale. As such, Africa is among the few places where the potential for bioprospecting and biopiracy is very high. The indigenous people's knowledge of Africa's biodiversity and its various functions ranging from food to medicine, can be considered some kind of collective or communal 'intellectual property'. Such knowledge was customarily shared, often freely, and therefore understood to be in the public domain in contexts of particular indigenous communities. Applying the same reasoning in context of Western IP systems opens it up to appropriation and misappropriation by foreigners protected by the individualistic Western IP systems. But as previously noted in the Ghanaian and South African attempts to protect indigenous knowledge and resources from foreign prospectors and 'pirates' by nationalising such resources, such a move only strips indigenous communities of the rights they previously enjoyed. That necessarily presents serious ethical and legal problems.

To further illustrate the problem of biopiracy, we use biotechnology as a specific area of science and technology (S&T) to better understand how IP is regulating as well as extending the frontiers of science, as well as the ways in which science and technology is extending the scope and reach of IP, at times raising serious ethical questions. We also note that within the area of biotechnology, there is the potential to abuse the IP system, for instance through seeking and granting patents that end up stifling further research and innovation that would otherwise benefit society.

Biotechnology is a relatively young science in Africa outside South Africa but certainly growing rapidly. While bioprospecting and biopiracy largely focused on plants or organisms and specifically active compounds that might be extracted for various purposes, biotechnology is rendering some of these compounds unnecessary since the focus is on genetic engineering and manipulation. Put simply, biotechnology is an area of science or applied biology focusing on the manipulation of living organisms for purposes of creating new (and possibly, better) organisms. The field is rather diverse because biotechnologists operate at many levels from the physical, as the case is in plant grafting, to the molecular level in the form of manipulation of genetic materials of living organisms. Today biotechnology is often associated with the latter, also known as modern biotechnology. However, in actual sense old practices of brewing beer through fermentation, selecting the best seeds for planting or even animal breeding by crossing one animal breed, pure or otherwise, with another to come up with the better one, are all forms of biotechnology also known as traditional biotechnology. Modern technology is known better for a number of reasons, notably the sense that the process and products of manipulation of genetic materials at the molecular level carried out in research laboratories come off as too artificial in comparison with the traditional biotech which happens in 'natural' settings. Yet, despite all the controversies surrounding biotechnology research and products, the field has made tremendous progress and contributions to many fields including medicine, agriculture and food security, engineering, etc. At the same time there are many unknowns that cause concern for potential impact of products of biotechnology research. But the concerns over biotechnology are not only about the unknowns, uncertainty has also been about attempts to clone human beings. Probably the most prominent biotech initiative involving humans was the Human Genome Project, an initiative of the United States Government and several partners worldwide. The primary objective of this project was to map the human DNA, an effort that was expected to have significant biomedical and health implications.

The evolution and development of traditional biotech and certainly modern biotechnology is linked to the evolution of specific areas of intellectual property, notably patent and plant variety laws.

Of course, at the core of products of biotechnology products is essentially information. Once a researcher has successfully improved on a certain cash crop (a crop grown primarily for profit) and the specific genetic make-up of the new plant becomes available or even the crop itself becomes available, inevitably others interested in such a crop will likely simply help themselves to it. But unlike music, art, software code or even literary products, the sources or origins for genetically modified products is usually nature. Some argue that it has always been nature, regardless of the varieties humans create, the original organism must have existed naturally. How then can one claim an intellectual product in the resultant organism? Are these more of 'products-of-nature' than human creativity, innovation and ingenuity? On the other hand, considering that biotechnology has made tremendous contributions to various areas of scientific inquiry, does the absence of specific laws protecting the results of such research threaten further research in this area?

The discourse around biotech products has mostly played out in the IP area of patents. As previously mentioned, patentability of innovative products must meet three standards or tests: 1) novelty; 2) non-obviousness and 3) utility. There are those that argue that, for a variety of reasons, biotech products hardly meet all or some of the three tests. First, as noted above, many are products of nature or at least originate from naturally occurring organisms. Where is the novelty in genetic engineering of naturally occurring organisms? How distinguishable are they from naturally occurring organisms from which they are developed? Put differently, what is the non-obviousness and the utility of bio-products? Of course biotech products are many and diverse. Different products will therefore meet different patentability standards. However, these standards, especially the utility standard, will serve an important regulatory function in determining what is patentable and what is not. Apparently the debate on the patentability of biotech products is not limited to the ethics of patenting living organisms. As already mentioned, biotechnology has made tremendous contributions to different areas of science. As such, the debate on patentability is also one about the privatisation of what is or has always been construed as public science or naturally occurring traditional resources, which throughout history contributed enormously to the public domain. Incidentally, of all areas of science and technology, the early advancements in biotechnology were rooted in public research institutions especially universities; to a large extent much of the research today remains anchored or situated in the same institutions like the Biotechnology Regional Innovation Centres (BRICS) at the University of Cape Town in South Africa⁶. While private entities and businesses play a crucial role in bringing biotech products on the markets, public institutions like universities and publically funded research remain important vehicles for supporting early research and development of various biotech products. However, increasingly private companies have invested heavily in biotech but mostly in the business end to bring products to the markets. Of course some have strong Research and Development (R&D) programmes and many pursue R&D in conjunction with academia. The majority of early biotech researchers in academia were motivated by the public value of their work rather than private benefits. That situation has not largely changed, but is changing rapidly as more institutions are encouraging start-up companies to emerge from university labs and/or license their patents to private companies.

Small biotech start-ups have generally enjoyed a strong partnership with universities and/or larger corporations (e.g. pharmaceutical companies that see potential in the work of the start-ups). Most of these start-ups see patents as the vehicle to transfer their work to the larger company for commercialisation and their own long-term viability. This seriously undermines the purpose of the patent system which sees a patent not as an end in itself but a means. Of course, what these small biotech companies engage in is not illegal but certainly it serves little to advance science and technology if the patent is used to prospect for investment resources from elsewhere. Moreover, many of them seek patents before their research has matured and is ready for commercialisation. That necessarily limits more research in a particular area. The ethical and efficacy concerns of

⁶ More about BRICS at <http://www.rcips.uct.ac.za/fundinnov/funding/brics/overview/>.

biotechnology are put aside. There is a concern that patent protection overreach has the potential to slow growth of innovation and research in the biotechnology field.

Utility, for one, requires proof of utility or use, which most biotech innovations cannot demonstrate at the time of filing for patent. As previously noted, these filings come from small businesses and university labs that are yet to develop them into products. Patents at this stage are used as place holders and also a means for securing resources to actually or eventually commercialise their invention. This necessarily subjects the patent system to abuse and of course retardation of the biotech industry and other areas of innovation like nanotechnology. Nonobvious is a difficult standard to enforce with regard to biotech because biotech is a rapidly changing field which makes the assessment and examination of new inventions by the patent offices difficult. This leaves utility as the most important standard for assessing and granting sensible biotech patents.

Beyond the standards for granting patents, for the purposes of this chapter, there are a number of fundamental ethical and possibly legal questions. First is the question of rights for originating sources. If a naturally occurring traditional resource contributes to the emergence of a new bioproduct, should the originating community enjoy some rights in the new product? Put differently, should the source of the property have no right in resultant commercial rights and benefits? Second, does the manipulation of the genetic code of naturally occurring living organisms or the extraction of the genetic code of useful living organisms for mass production of the same constitute innovation and the resultant organism or bioproducts represent intellectual property? Where does the contribution of nature end and human innovation and ingenuity start? Does the 'propertisation' of bioproducts threaten nature in any way since any living thing can be manipulated genetically? Finally, does the genetic manipulation of indigenous resources constitute biopiracy since the scientists are not working with indigenous resources as such but with their genetic materials? Put differently, should biopiracy be extended to genetic resources and levels?

4.3. IP and access issues in Africa

IP and access to knowledge, information or medicine is another area of legal and ethical concern in Africa. IP and access to knowledge or information primarily relates to the area of copyright while that of access to medicine primarily relates to patent. The nexus between copyright and access to information stems from the bundle of rights granted by copyright law to the 'author'. Copyright grants these rights exclusively to the author with a few exceptions and limitations, notably the fair use doctrine mentioned earlier. The exclusive rights granted to the author potentially limit the extent to which the user/publics access protected rights works without permission from the 'author'. While in mature economies where the vast majority can afford to participate in the market economy by purchasing copyrighted works, in Africa the vast majority simply cannot afford to own personal copies of original materials. Hence many rely on photocopies or even pirated versions of the original materials.

Most copyright laws permit rights owners or holders to license third parties to do things like reproduction, translation and other derivative activities. However, many often do not grant such licence, thereby limiting access to only original copies which in many African societies are simply beyond their reach. Other legal constraints are imposed on access by copyright law owing to the exclusive rights. Some of these include the problem of Technological Protection Measures (TPMs) which are digital locks on digital content; orphaned works which are works whose copyright owner cannot be found to grant permission or licence for use of such works, and Public Lending Rights (PLRs) where the copyright owner authorises or prohibits public lending of his or her works by institutions like libraries⁷. EIFL Handbook on Copyright and Related Issues for Libraries discusses a

⁷ See EIFL handbook available at <http://www.eifl.net/eiflhandbookcopyrightenglish>.

number of information access-related constraints imposed by copyright in the context of libraries. While some may not currently apply to African contexts and countries because copyright laws in these countries have not introduced some of these provisions (e.g. Public Lending Rights), the international trends towards harmonisation of international IP systems will eventually likely lead to more African countries adopting the same access-constraining copyright measures. The most notable international agreement relating to harmonisation of IP is the Trade-Related Aspects of Intellectual Property (TRIPS) signed in 1994 to set up minimum standards for the protection of IP among member countries of the World Trade Organization (WTO). Given the increasingly stringent copyright laws, studies have shown that in most African countries where copyright laws are enforced, they have the potential to limit access by shutting down all avenues for access currently available to the majority poor⁸. A similar outcome can be expected if laws are enforced in future where they are currently not enforced or enforced effectively.

The constraints caused by patent law on access to medicine are closely similar to those relating to copyright and access to information. Most medicines are protected under patent law for a limited period of time, normally twenty years. Upon expiry of the patent protection, anybody can produce the same medicine without permission from the developer and owner of a particular drug. Normally these are known as generic drugs as opposed to brand names which are the originally patented drugs. In case of access to medicine, it is well known that most major pharmaceutical companies simply do not invest or do not invest enough in research and development (R&D) of diseases affecting the poorest of the poor in the world. Africa happens to be one of the poorest continents in the world, hence most of the diseases affecting the continent simply have no or little medicinal remedies or attention of the major multinational pharmaceutical companies. This has become a major global problem which has prompted the World Health Organization (WHO) to commission studies on the nexus between IP, public health and access to drugs (WHO, 2006). Often this is not even a problem of patent-limiting access to such medicines because most of these medicines do not exist due to a lack of funding for their development. Of course that raises ethical concerns as to whether public health is primarily and exclusively about the bottom line or profitability.

However, the more troubling and ethical concern relates to medicines available on the markets in both poor and rich countries for which no cheaper generic alternatives are available because the holder of the patent is unwilling to license smaller pharmaceutical companies to produce the generics. This has been particularly the case for a range of antiretroviral medicines for treating HIV/AIDS patients in Africa. Given the extent and scope of the HIV/AIDS scourge in Africa, failure to provide access to such drugs condemns the affected people to a slow death, yet cheap generic antiretroviral drugs would ensure they live longer productive lives. Intellectual property law, patent in this case, becomes a tool for limiting rather than facilitating access.

5. Conclusion

This chapter has looked at the ethical concerns arising from the use or application of IP in Africa. Most stem from the misfit between the 'Western' IP system built around the innovative or creative individual and the historically and traditionally communal or collectivist African systems for the creation and exploitation of intellectual works. While these distinctions have been well documented elsewhere, this chapter makes an important addition to the IP discourse in Africa. It was observed that as the capitalist economy and Western IP systems take root in African societies, tensions are emerging amongst Africans where creative individuals like traditional musicians operating in 'modern' African economies are increasingly at odds with the traditional collectivist values. This raises ethical

⁸ See the African Copyright and Access to Knowledge Project findings available at www.aca2k.org.

as well as legal questions as to who is responsible for the expressive cultural resources from whom the creative individual draws and/or contributes. The issue of bioprospecting and biopiracy is currently being complicated by advances in science, most notably advances in biotechnology. This area of science is blurring the source of biological materials, further complicating the debate around biopiracy. The problem of access to both information and medicine illustrates the challenges imposed by IP on what are basic and fundamental needs on a continent where the vast majority simply cannot provide for themselves.

Generally, this chapter uses the above areas of ethical concerns and the theoretical and philosophical contradictions mentioned earlier to illustrate the need for more engagement and reflection on the impact and role of IP laws in Africa. By no means does the chapter tackle or address each and every ethical concern or for that matter area of IP. Yet the few examples cited demonstrate the detrimental nature of Western IP systems on a continent that was never ready for such systems of protection and rewarding of creativity and innovations. The readers are invited to use the theoretical and conceptual framework provided to examine other ethical issues that arise or might arise.

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Chapter Six

e-Government Divide: Implications for sub-Saharan Africa

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1. Introduction

e-Government is increasingly implemented around the world as part of the continuing efforts to bridge the digital divide between developed and developing countries in order to enhance access to digital technologies by the majority of the people who are currently excluded. The World Summit on Information Society (WSIS) Action Line C10 on ethical dimensions of the Information Society considers access/accessibility an ethical issue that must be addressed (WSIS, 2005). Many governments believe e-Government has great potential to address the problem of access/accessibility within their jurisdictions.

e-Government has been defined in literature in a variety of ways. Ngulube (2007) cites 12 different definitions of e-Government and concludes that the concept has many interdisciplinary homes and is firmly integrated in the humanities, social sciences, arts, information technology, management and many other academic fields. The United Nations (UN) e-Government Survey (2010) defines e-Government as a means of enhancing the capacity of the public sector, together with citizens, to address particular development issues. In this regard, e-Government is aimed at strengthening the performance of government and public administration with the ultimate goal of achieving economic and social development (Anttiroiko & Malkia, 2006). Heeks (2004) defines it as an online government that deploys any of the following technologies: Internet, telephone, fax, Short Message Service (SMS), Multimedia Messaging Service (MMS), wireless networks, Bluetooth, television and radio. Curtin, Sommer and Vis-Sommer (2003) assert that e-Government is the use of any and/or all forms of ICTs by governments and their agents to enhance operations; deliver public information and services; engage with citizens; engender public participation; and the very process of governance. The World Bank (2007) defines e-Government as the use, by government agencies, of information technologies (such as wide area networks, the Internet and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. According to the United Nations Educational Scientific and Cultural Organisation (UNESCO) (2004), e-Government is the public sector's use of ICTs in order to improve information and service delivery, encourage citizen participation in decision-making processes and make government more accountable, transparent and efficient. Recently, social media are being applied in government. e-Governance, a derivative term of e-Government, connotes the application of ICTs to facilitate social governance processes or objectives, such as information for political participation, consultation and consensus-seeking among governments, public servants, politicians and citizens (Sheridan & Riley, 2006). Both e-Government and e-Governance aim to enhance service delivery by simplifying bureaucratic procedures, enhancing efficiency and transparency, improving information sharing and innovation of service, and increasing the level of citizen empowerment.

e-Government implementation has become the focus of many governments the world over, for various reasons. Firstly, the revolution in Information Communication Technology (ICT) has put pressure on governments to demonstrate social inclusivity, enhance service delivery and promote democratic and inclusive governance.

Besides, governments are being called upon by citizens, development partners, opposition

parties and civil society to demonstrate accountability and integrity in their operations to justify their continued stay in power. Farelo and Morris (2006) state that innovation in service delivery and customer focus are some of the prime motivations for e-Government projects. Moreover, globalisation and the sharing of experiences that come from increased awareness about civil rights, democracy and the role of governments in improving the quality of life of its citizens have been instrumental in e-Government growth.

Lenk (2002, 2004) states that the main focus of e-Government, in any part of the world, is the reorganisation of service processes and citizen services. Schuppan (2009), from the technical as well as service perspectives, outlines the following e-Government basic organisational principles: multichannel distribution, separation between front and back offices, and process reorganisation which avoids media discontinuity. These principles, according to Schuppan, provide the basis for governments to provide public services via the Internet, independently of space and time. They also enable governments to undertake changes in the underlying processes, decision-making structures and procedures, as well as using ICT to raise the overall efficiency, effectiveness, and legitimisation of administrative structures and decisions. Akther, Onishi and Kidokoro (2007) assert that e-Government has the potential to reduce the administrative and development problems associated with sub-Saharan Africa.

2. Research problem

The annual United Nations (UN) e-Government Surveys have repeatedly shown that most countries in Western and Eastern Europe, North America and Asia are leaders in e-Government compared to their counterparts in Africa. Despite the existing e-Government divide between the developed and the developing world, Huang, D'Ambra and Bhalla (2002) report that most, if not all, e-Government strategies and implementation plans in the developing world, including Africa, are based on the theories and experiences of developed countries. Using annual UN e-Government Surveys as the theoretical framework and analysis of e-Government literature, the purpose of this chapter is to attempt to find out why sub-Saharan African countries are lagging behind their counterparts in the developed world in e-Government. In particular, the following research questions will be addressed: What e-Government strategies and best practices are applied in the developed world? What is the status of e-Government in Africa? Why is Africa lagging behind the developed world in e-Governance? How can Africa overcome e-Government barriers in order to improve its global ranking?

Akther, Onishi & Kidokoro (2007) assert that addressing the different institutional and cultural contexts must be considered when implementing e-Government in sub-Saharan Africa. They also note that simply transferring ICT solutions and related organisational concepts from developed to developing countries is inappropriate. Besides adopting Western-developed e-Government models, additional effort is needed when implementing e-Government in developing countries. They state that the laggard position of Africa in e-Government in the world is a state of failure or lack of capacity. Bannister (2007) and Janssen, Rotthier and Snijkers (2004) separately found that with the exception of South Africa, e-Government services in sub-Saharan Africa are rare to come by, although this does not suggest that pockets of advanced usage are not recorded in some places.

3. Methodology and theoretical framework

This chapter is based on the content analysis of the UN e-Government 2008, 2010 and 2012 Surveys, as well as empirical and theoretical literature on e-Government in primary and secondary sources. This methodological approach is chosen because e-Government, as an emerging field or practice, is still in its nascent stage of development and therefore does not have a well-established theoretical underpinning. In this regard, Titah and Bark (2006) assert that despite increased research interest in

e-Government, the field currently lacks sound theoretical frameworks that can be useful in addressing key issues concerning the implementation of e-Government systems.

The UN e-Government Surveys (2008, 2010, 2012) adopted a consistent framework for carrying out surveys, which provide a sound basis for addressing the research problems outlined above. The basic parameters of the UN e-Government Surveys are telecommunication infrastructure, human capital and e-participation. The telecommunication infrastructure is assessed using a composite index of five indicators, namely number of personal computers per 100 persons, number of Internet users per 100 persons, number of telephone lines per 100 persons, number of mobile cellular subscriptions per 100 persons and number of fixed broadband subscribers per 100 persons using data provided by the International Telecommunication Union (ITU). The human capital, on the other hand, is a composite index of two indicators: the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio using UNESCO data. The e-participation examines qualitative factors at the Connected Presence stage of e-Government. The e-participation factors include facilitation of information to citizens by governments (G2C) (e-Information sharing), interaction with stakeholders (e-Consultation) and engagement in decision-making processes (e-Decision making). The UN e-Government Survey (2012) states that a country's e-participation index value reflects how useful these features are and the extent to which they have been deployed by the government compared to all other countries.

4. e-Government strategies applied by the developed world

Studies by Wilson (2004) and Zakareya, Zahir and Sarmad (2004) have shown that ICT expertise and infrastructure positively influence e-Government strategies in the developed countries. Most noteworthy is the support and active commitment of influential politicians in promoting e-Governance and the role of politics in e-Strategies implementation. The United Nations e-Government Survey (2010) reports that many countries in Europe, North America and Asia have used pull technology tools, such as websites, to avail businesses and the general public vast amount of citizen-centric information online. In addition, these countries have used more push technologies to avail government-centric information to businesses and people alike for the purpose of enhancing online interactivity and feedback. PCMag.com Encyclopaedia (2012) defines a 'push technology' as a data distribution technology in which selected data are automatically delivered to the user's computer or mobile device in real-time or at prescribed intervals. E-mail messages, calendar updates and text messages are examples of data that are pushed to the user. In contrast, 'pull technology,' in which the user initiates a request for the data each time. Browsing the Web is an example of the pull model.

In these jurisdictions, e-service delivery and access have been enhanced through the increased use of ICTs. In contrast, developing countries, especially in Africa, have yet to effectively engage their citizens using electronic means. Moreover, in most developed countries where e-Government projects have been successful, they post high e-participation indices reflecting stronger citizen-government engagement. The 2010 UN e-Government Survey identifies key indicators of successful e-Government projects as citizens' inclusion in government decision-making processes; governments' provision of information and knowledge; and governments' consultation with citizens to obtain feedback and opinions.

Additionally, leading jurisdictions in e-Government have well-structured approaches to electronic government implementation. Chen, Chen and Ching (2006) outline three phases of e-Government employed by the majority of countries in the developed world. The Initiation Phase focuses on providing citizens with a single point of access to government information and web-enabling government payments with the aim of providing citizens with a minimum level of political involvement, such as knowing who represents them and what is happening on the political scene. The Second Phase of e-Government implementation, also known as the Infusion Phase, involves the

adoption of the principles of e-Government, with online reviews and payment applications becoming widely installed. At this stage, citizens can make most government payments via the Web and electronic bills presented online become the standard norm. To enhance efficiency, small governments at this phase opt for an Application Service Provider (ASP) solution, while large governments implement in-house systems. The use of ASP enables governments to create the infrastructure, acquaint governments and citizens with the concept of e-Government, and also enables governments to learn how to scale from a handful to tens of thousands of online government services. Once initiation has been attained and foundation skills and knowledge acquired, large-scale adoption can follow. The Final Phase of e-Government is customisation, because the one-size-fits-all solution cannot suffice. During the Customisation Phase, a one-to-one relationship between citizen and government is the goal, in order to improve each citizen's efficiency by creating his or her personal profile with government.

Leading countries in e-Government have a well-developed and elaborate infrastructure. Chen et al. (2006) state that the United States (US), as the largest economic powerhouse on earth, has one of the most advanced National e-Government Infrastructures (Nels) in the world, that is hinged on its history and culture of democratic government ideals, platforms and capitalist economic system. Besides, the US government adopted three strategic principles in the implementation of e-Government: (1) citizen-centric, not bureaucracy-centric; (2) results-oriented; and (3) market-based, actively promoting innovation. Relyea (2002) reports that the policy environment in the United States is an important feature in understanding the strategy for e-Government implementation. For instance, a set of laws such as the Privacy Act, the Computer Matching and Privacy Protection Act, the Electronic Freedom of Information Amendments, the Computer Security Act, the Critical Infrastructure Protection, the Government Paperwork Elimination Act, and the Electronic Government Act, are in place to facilitate e-Government. Apart from the US, the Republic of Korea, the Netherlands, United Kingdom, and Denmark are among other leaders in e-Governments, as demonstrated by their levels of e-Government Development Indices (EGDIs) reflected in Table 1 below:

Table 1 Top ranking countries in global e-Government development

Rank	Country	e-Government development index value
1	Republic of Korea	0.9283
2	Netherlands	0.9125
3	United Kingdom	0.8960
4	Denmark	0.8889
5	United States	0.8687

(Source: e-Government Survey, 2012)

A review of the e-Government status literature in the countries listed in Table 1 reveals common trends regarding the centrality of human capital and infrastructure development, enabling policies, citizen-centric services and others. The e-Government Development Index (EGDI) helps rate the performance of national governments relative to one another. The maximum possible value of EGDI is one and the minimum is zero. EGDI is a weighted average of three normalised scores on the most important dimensions of e-Government, namely scope and quality of online services, telecommunication connectivity, and human capacity (UN e-Government Survey, 2012).

The UN e-Government Survey of 2012 shows that no country had a true single-sign-on integrated portal. The United States, Republic of Korea, Israel, Australia, Norway, Denmark, Bahrain, Qatar, United Arab Emirates and New Zealand are among the few countries that come close to a pure one-stop shop portal with information, services and participation services integrated on one site. The single-sign-on integrated portal is a single platform that can organisationally transform the public services across the world. Most European countries follow this norm of a single-sign-on integrated

portal platform and, as a result, many of these countries are in the top 20 in the UN e-Government Index (UN e-Government Survey, 2012).

During 2008 and 2010, the Republic of Korea was top on the e-Government index, a fact attributed to its national portal being exceptional in its design and provision of features to its citizens. The portal is an integrated system allowing citizens easy access to government information and contains features for mobile alerts, forms, transactions and online consultation (UN e-Government Surveys 2008, 2010). For e-participation, users are connected to e-people, a single online service that integrates the e-services of all government agencies. The aim of e-people is to improve the transparency of government administration, improve corruption reporting and engage citizens through petitions, proposals and policy discussions. Users are connected to a secure login portal for all e-Government transactions and form submissions (UN e-Government Surveys, 2008, 2010, 2012).

Chen et al. (2006), in comparing e-Government strategies in developed and developing countries, found that the main areas of differences include history and culture; technical staff; and infrastructure – broadband, citizens and government offices. The Centre for International Development at Harvard University and International Business Machines (IBM) identified key differences between developing and developed countries in terms of e-commerce implementation (Kirkman, Osorio & Sachs, 2002), which include network access (measured by the availability, cost, and quality of information and communication technology networks, services, and equipment); infrastructure development; resources and IT support; utilisation; network learning; network economy; network policy; culture and society. Kirkman, Osorio and Sachs (2002) note that excelling in these factors has propelled developed countries into the leadership position in their e-Government projects.

A close scrutiny of the UN e-Government Survey (2010) also reveals that strategies that have worked in the developed countries include investing in streamlining the national and ministry portals and websites to offer more e-services; online service provision and use of ICT; social networking sites and more active engagement of citizens in dialogue with government electronically. Social networking tools enable governments to consult with citizens and expand opportunities for participation in decision-making processes. They can be used to garner feedback and opinions and to elicit support for public policy. To engage citizens, more countries have developed sites in the social networking arena (Carter & Belanger, 2005). Other e-Government strategies are based on regional, collaborative efforts through shared vision, objectives and an implementation approach for the short-term and long-term periods. Such collaborative strategies are commonly found in the European Union and the Persian Gulf member states, which have developed e-Government standards and structures applied in the respective regions (UN e-Government Survey, 2010).

Chen et al. (2006) and UN e-Government Surveys (2010, 2012) identify inclusive planning with citizens, prior to the implementation and delivery of services and bottom-up approaches, as critical to the success of most e-services in Korea, USA and Canada. The UN e-Government Surveys also suggest that in the developed countries, e-Government projects are focused on service personalisation. Personalised and user-driven services are provided with shared expectations and principles of social justice, as well as personal and public value. In these countries, multichannel systems such as personal computers, the Internet, mobile devices, telephone, digital TV, and kiosks, are used to offer e-Government services through technology that is simple, flexible and a right choice for people to use.

5. Status of e-Government in sub-Saharan Africa

Sub-Saharan Africa refers to an area of the African continent that lies south of the Sahara. e-Government development in the sub-region is still in its nascent stages with limited public services being processed online (Bannister, 2007; Janssen, Rotthier & Snijders, 2004). Lam (2005) outlines a

set of 17 barriers for e-Government implementation in sub-Saharan Africa, which is organised into four categories: strategy, technology, policy and organisation. Strategy barriers include lack of common e-Government goals and objectives, delivery timeframes, ownership and governance across government agencies. Technology barriers include architecture interoperability, data standards and legacy systems. Policy barriers include citizen privacy, data ownership and policy implications. Organisation barriers include pace of government reform, legacy government processes and management and technical skills, and expanding access to information and knowledge (i.e. increasing the number of Internet users and personal computer usage; increasing the broadband capacity to allow for greater use of mobile devices for e-Government; developing content that citizens find important and useful; improving education levels so that citizens are able to use the information and knowledge provided; and encouraging citizen participation). Furthermore, data relevant to development, such as market prices and public service indices, are hardly available in good quality. Farelo and Morris (2006) note that Africa has a general skills shortage, which is exacerbated by the 'brain drain' caused by skilled ICT personnel and professionals leaving to work in developed countries or moving from the public to the private sector. Besides, education and training is unable to produce the essential and technical management skills that most employers seek. Informa (2012) notes that the limited functionality of entry-level mobile handsets is an inhibitor to the potential of mobile government services.

Akther, Onishi and Kidokoro (2007), lamenting the sub-Saharan African e-Government status, note that the necessary data such as land registers, residential data or geographic data is often non-existent or completely outdated. They further note that permit processes (such as building permits or property acquisition) can frequently span several years, and often no services can be received without 'acceleration money'. The 2008 UN e-Government Survey showed that sub-Saharan Africa had the smallest number of countries that had links from the national home pages to those of local governments. One reason for this was that in some sub-Saharan African countries and other developing countries, local government websites simply did not exist. In addition, some of them did not have the financial resources to interconnect local government offices to the country's Internet infrastructure (UN e-Government Survey, 2010).

Kaisara and Pather (2009) report that Mauritius and South Africa are at the top stage in Africa since their citizens are able to register a birth or death, apply for a social welfare grant, pay taxes, access government legislation and find information on activities of their representatives in parliament and local government without having to leave their homes or offices. According to the UN e-Government Survey (2010, 2012), the ministries of health, education, labour, finance and social services in Tunisia provide a number of e-services and a wealth of information online. Besides, the national government portal provides an online services section on the home page that provides quick access for citizens to information on services such as obtaining a driver's licence and acquiring personal and home loans. Information regarding government services is also laid out by sector, providing quick and efficient access to comprehensive data (UN e-Government Survey, 2012). In Egypt and Libya, citizens are provided with an updated calendar of events on e-participation, enabling the public the opportunity of making a choice as to whether they want to participate or not (UN e-Government Survey, 2010).

The strategies of e-Government in North Africa as a whole stand much better than those of West Africa (UN e-Government Survey, 2010). In most African countries, and West Africa in particular, there is poor telecommunications infrastructure, low human capacity in the region, and broadband access is practically non-existent. For instance, in Cape Verde there are only 1.48 subscribers per 100 inhabitants. The survey concluded that it will be very difficult for any substantive progress to be made in e-Government development in West Africa as a result of its poor telecommunication infrastructure, low human resources capacity and the amount of investment

required – which far exceeds the financial capacity of the region (UN e-Government Survey, 2010).

The UN e-Government Survey (2012) reports the lack of access to both ICT and education infrastructure in the developing countries (especially in Africa) as the major constraint on e-Government development. Income per capita in developing countries imposes added constraints, with lower-income countries having a higher marginal cost for a dollar spent on ICT. Besides, there is competition for resources such as safe water, rural health and basic education services and this becomes especially acute if the country has a large population, such as Nigeria, since e-inclusion demands that online service access and infrastructure be available to all. The large areas require greater investments in providing telecommunication infrastructure. Even with the ubiquity of cellular technology, connectivity remains a major challenge for far-flung rural areas.

The UN e-Government Survey (2010) draws attention to the fact that some developing countries have begun to catch up with higher-income countries, despite the challenges of infrastructure, technical staff, etc. However, all subregions in Africa fall below the world average. The e-Government Development Indices reflected in Table 2 show that the top six sub-Saharan African countries are way below world standards in e-Government rankings.

Table 2 UN e-Government development indices for Africa

Rank	Country	E-Government Development Index Value
1	Seychelles	0.5192
2	Mauritius	0.5066
3	South Africa	0.4869
4	Tunisia	0.4833
5	Egypt	0.4611
6	Cape Verde	0.4297

(Source: e-Government Survey, 2012)

For example, Mauritius, Egypt and Seychelles, though leaders in Africa, lag way behind global leaders such as Canada, Korea and the US in the area of IT infrastructure and education. As already pointed out, various reasons account for these disparities between developed countries and Africa, which include low maturity levels, poor performing economies, inadequate infrastructure, limited broadband access, and low information literacy skills (Chen et al., 2006). For example, the UN e-Government Survey (2010) reports that Kenya and Ethiopia are hindered by setbacks in infrastructure to support e-Government strategies. The websites of most ministries in the region provide basic information while e-services are generally never available.

Despite limited resources, a few countries in sub-Saharan Africa have managed to improve their e-Government. In Southern Africa, the UN e-Government Survey (2012) reports that the government of Seychelles took the initiative to enhance its e-Government service offerings in line with an integrated and interdependent strategic approach that focuses on ICT infrastructure, legal and regulatory framework, human resource development, and improvements in the efficiency of the government. Seychelles has made sustainable improvement in social, economic, cultural, and good governance through the deployment and effective application of ICT. Seychelles hosts its integrated portal through its SeyGo Connect for residents, citizens and businesses, which branches out into an e-services gateway, providing a one-stop shop service ranging from thematic, sectoral, life cycle services to single-sign-on services tailored for the individual user. In West Africa, the national website of Benin features podcasting and online forums, while the Ghanaian government utilises social networking tools such as Facebook and YouTube to offer services at its Ministry of Information (UN e-Government Survey, 2010).

Farelo and Morris (2006) note that corruption, human resource development and monitoring and evaluation are core issues of concern for e-Government implementation in South Africa. However, there has been progress with regard to Government to Business (G2B) services (e.g.

availing tender documents online) and Government to Citizen services such as downloading various forms for identity, birth certificates and voter registration. Generally, South Africa has the required legal framework for e-Government, although it falls short in terms of human capital and infrastructure development (Farelo & Morris, 2006).

6. e-Government lessons for sub-Saharan Africa from the developed world

The design of an effective e-Government system must be guided by an enabling strategy that results in significant improvements in simplifying the delivery of services to citizens; eliminating layers of government management; making it possible for citizens, businesses, and other levels of government to easily find information and get service from government; and eliminating redundant systems (Farelo & Morris, 2006; Kitaw, 2006).

Lam (2005) recommends that governments should take into account language, culture, content, accessibility and alternate delivery methods in e-services to all segments of the population. Without a common set of goals and objectives, without which the joint planning of projects by multiple government agencies becomes impeded by the lack of clarity, conflict arises in the definition of roles and responsibilities and lines of ownership (Themistocleous & Irani, 2001). Farelo and Morris (2006) emphasise the importance of improved access for citizens, particularly in rural areas; a supportive telecommunications policy; internal efficiencies from a technological point of view; a people perspective; training, and creating a common purpose.

e-Government implementation strategies should align technology with development, citizens' empowerment, and inclusion and mechanisms for the evaluation and monitoring of e-Government service delivery to the public. The strategies should also reflect relevant local content, consumer information, job opportunities, scholarships, education, access to legal services, access to credit for Small and Medium Enterprises (SMEs) and effective infrastructure for ease of access to government information. It is also important to involve citizens in e-Government policy formulations. Lam (2005) notes that security is one of the major concerns citizens have in using e-Government services. Citizens want to be assured that the information they enter online is safe, secure and remains confidential. Additionally, citizens want convenient ways of receiving e-Government information using tools that they have easy access to such as e-mail, cellular phones, PDAs and kiosk systems with voice recognition (Sharma, 2004). Gronlund, Andersson and Hedstrom (2005) point out that for e-Government projects to be effective, focus must be placed on social and economic contexts. Governments need to ensure that the ethos of e-Government is infused into poverty alleviation and service delivery programmes.

With mobile penetration growing significantly in sub-Saharan Africa, e-Government projects should leverage such new technologies, including social media, to provide citizens the opportunity to get service or receive information timeously. Governments in sub-Saharan Africa should engage with citizens that currently have little government contact. Scott, Batchelor, Ridley and Jorgensen (2004) report that mobile government (m-Government) is expected to continuously expand due to the high penetration of mobile services, especially in developing countries.

Different countries can adopt custom-made strategies to promote e-Government in their jurisdictions and accelerate electronic government services to the people. For example, the South African ICT policy prioritises Universal Service and service delivery to all South Africans. The implementation is monitored by the Universal Services and Access Agency of South Africa (USAASA). The Agency stimulates public awareness of the benefits of ICT services and builds capacity for accessing these services. USAASA makes the necessary interventions to enable under-served communities to access ICT services (Mutula & Mostert, 2011). The government's web portal provides information on government services and other information such as legislation, policies, etc.

The portal has translated information into all of South Africa's 11 official languages (Farelo & Morris, 2002). The South African government has also put in place the Government Communication and Information System (GCIS) – a government information service that ensures the government has direct dialogue with people in disadvantaged areas.

With three-quarters of the population living in rural areas in most African countries, providing public services through cellular technology should be the main goal. Though mobile government has been slow to take off in most countries in Africa, governments in Rwanda, Kenya, Uganda and Tanzania have been quicker to embrace the consumer benefits of public service delivery by cellular technologies (Informa, 2012).

Since 2009, when undersea fibre optic connectivity on the east coast of Africa was completed, high speed Internet links to the rest of the world are now possible. Besides fibre optic connectivity, the mobile revolution has brought communication to hundreds of millions of people across Africa. At the end of 2001, there were just 25.6 million mobile subscriptions across the whole of Africa, representing three per cent penetration. Informa (2012) estimates that by the end of 2012 – ten years later – there would be 640 million subscriptions across the continent and SIM penetration would be close to 60%. Besides, the current household broadband penetration in Africa, of just 3 %, is projected to grow to 8% by the end of 2016.

Furthermore, there is growing awareness in government and business sectors that consumers expect an anywhere, anytime service. The move from e-Government to m-Government in Africa seems inevitable, given that the number of people with access to mobile phones is growing and exceeds the number of citizens with access to the Internet by nearly five to one (UN e-Government Survey, 2012). Informa (2012) projects mobile communication to dominate broadband services in terms of user numbers, as a result of recent infrastructure investments in 3G and 4G networks on the African continent. Though fixed Internet traffic exceeds mobile Internet, the gap is reducing markedly in Africa. Consequently, it is projected that by 2015 18% of its Internet traffic will be carried by cellular networks compared to the current global figure of just 3%.

7. Conclusion

This chapter sought to redefine the digital divide through a comparative analysis of e-Government strategies in the developed world and sub-Saharan Africa. The main research question was: Why are sub-Saharan African countries lagging behind their counterparts in the developed world in e-Government? The following specific research questions were addressed as well: What e-Government strategies and practices are applied in the developed world? What is the status of e-Government in Africa? How can Africa overcome e-Government barriers in order to improve its global ranking? These questions were addressed through the review of e-Government literature and content analysis of UN e-Government annual Surveys.

The findings show that sub-Saharan Africa has largely adopted e-Government implementation strategies of the developed world, but this has not propelled the continent competitively in global ranking compared to its counterparts in Europe, North America and Asia. Sub-Saharan Africa has not prioritised putting in place an enabling strategy. Besides, it has not taken into account local context, nor provided supportive telecommunication policy, including citizen involvement in policy formulation. The completion of the undersea fibre connectivity on the east coast of Africa in 2009 and the increasing mobile phone penetration on the continent have the potential to contribute towards bridging the digital divide in sub-Saharan Africa.

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Chapter Seven

To Understand or not to Understand: A Critical Reflection on Information and Knowledge Poverty ¹

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1. Introduction

Poverty is a reality that has an impact on the lives of billions of people around the globe on a daily basis. Shah (2012) published some shocking poverty statistics in the April 2012 edition of *Global Issues*. I quote loosely some of these stats:

- More than 3 billion people live on less than \$2.50 per day.
- The Gross Domestic Product of the 41 poorest nations in the world (567 million people) is less than half of the wealth of the 7 richest people in the world combined.
- Nearly a billion people on the planet cannot read or write.
- Less than one per cent of what the world is currently spending on military equipment is needed to put every child to school – sadly this did not happen (*Global Issues*, April 2012:1).

What is the meaning of the terms 'poverty' and 'poor'? Generally speaking, these terms are used in different ways and contexts. They are primarily used to indicate the economic and social status of people. People who earn a low income are poor and live in poor areas. When one says: "That poor person", poverty has the added connotation of pity and subservience. For this reason, according to Adcock (1997:208), less affluent people dislike being referred to as 'poor'. Poverty is furthermore the direct opposite of wealth. Wealth is generally linked to concepts such as abundance, happiness and status.

Etymologically the term poverty comes from the Latin pauper/paupertas. In English the term poverty has been in use since the 12th century and is directly derived from the French word *poverté*. It has a number of meanings, among others: not rich; subservient; inferior; to be looked down on; cheap; to lose possessions or a lack of money or material possessions; according to social norms (Oxford Latin Dictionary, 1976:135); (Webster's Dictionary, 2012).

Based on these definitions, the most common and generally accepted description used internationally for poverty is that condition of life where the majority of people lack sufficient resources to supply their basic needs for survival. Poverty furthermore does not only refer to the presence or absence of resources; it is also expressed in the inability to produce these resources (May, 1998; Wilson & Ramphela, 1989 and Lötter, 2000).

From this discussion of poverty it is clear that it is primarily linked to people's inability to provide for their basic needs. In other words, it indicates the socio-economic status of people and communities, together with its impact on just about every aspect of their lives.

Information and knowledge poverty can indeed be viewed as one of the main forms of poverty today. It relates to a person's or a community's inability, not only to access essential information, but

¹ This chapter is based on a doctoral thesis by the author titled "A critical analysis of information poverty from a social justice perspective" (2007) at the University of Pretoria, South Africa.

also to benefit from it to meet their different needs not only for survival, but also for human development, economic growth and prosperity.

Information and knowledge poverty, as I will explain in this chapter, is a rather complex notion and many factors contribute to this condition. People have always relied on information and the application thereof (knowledge) to address their different needs and in that sense information and knowledge poverty is not a new phenomenon. What has changed, however, is the fact that our world has become in a sense an “information-based world” where access to information has become more than just the ability to “know” (De Mul, 2003). Access to information has also become a socio-economic and political activity, for example online shopping or online voting (e-voting), which implies a more sophisticated use and application of information. We are now living in a dematerialised information-based world brought about by digital technologies – which can indeed be defined as disruptive technologies. Digital technologies, in particular the Internet and social media, have brought about a profound transformation in the information and knowledge landscape. Anderson (2012) argues correctly that the Web has democratised the tools for learning and knowledge creation and sharing. The Internet has become much more than just a tool to communicate and access information. It enables people to engage in economic activities and to become, in the words of Anderson (2012) ‘makers’, introducing the new industrial revolution that amplifies human potential because of the design and creative possibilities offered by digital technologies. There has indeed been a move from ‘bits to atoms’, allowing ordinary people to create and make things on the Web and use 3-D printers to convert the bits into atoms – it has indeed become the Internet of things.

The introduction of digital technologies started as a cultural shift where more and more people have become engaged in these technologies that opened so many new communication opportunities. It has now become an economic paradigm shift, changing profoundly the way we do business; as Anderson argues, it has changed the face of industry (2012:19). Open markets and global competitiveness have made it an imperative to invest in digital technologies and to ‘unbundle’ economic and socio-cultural activities – consider for example the impact of social media on culture and economic activities. The creation of new knowledge and the emerging of the new infopreneurs (the makers) have also become the most important competitive advantage in economic activities and financial investments – hence the coining of the notion of “knowledge based economies” (Friedman, 2005).

Although digital technologies have played a major role in dividing the world between ‘information/knowledge haves’ and ‘information/knowledge have-nots’, information and knowledge poverty is not limited to a technology/digital divide only, or as Floridi (2001) puts it: It is not only a divide between “technology insiders” and “technology outsiders”. Van Dijk (2005) makes the point that level of education, age, status of employment, level of income, position in a household, infrastructure (for example availability of electricity), value assigned to information and cost of access to information all come into play in understanding and addressing the digital divide and by implication information and knowledge poverty. It is therefore not only a social and economic divide, but also a divide between individuals sharing the same space and culture.

Digital technologies have also introduced new asymmetric power relationships and raised questions and moral concerns such as the fundamental freedom of people, the right to freedom of expression and communication, the right to participate in the different socio-economic activities, the right of access to information and the creation of equal opportunities allowing people to become who they want to be (Sen, 1993).

It is for this reason that the very notion of information and knowledge poverty and the effect that it has on the lives of billions of people on a daily basis should be on the world’s moral agenda of social responsibility.

2. Description of information and knowledge poverty

How should we then understand information and knowledge poverty? This question defines the scope of the next section of this chapter.

2.1. Three interrelated approaches and the shift from 'information poverty' to 'information and knowledge poverty'

In an article published in the *Journal of Information Science* (2004) I provided an in-depth literature review on the different approaches to what I referred to then as information poverty. I have since expanded on these approaches in other publications (2007) and added the notion of 'knowledge' emphasising the importance of understanding and the ability to assign meaning to information. What follows here is an abbreviated and updated version of this analysis. The literature review shows that there is general consensus on the notion of information and knowledge poverty, but there are many opinions, descriptions and approaches to the understanding of this form of poverty.

I will discuss some of these definitions under three categories, namely 1) an information technology approach, 2) an information content approach and 3) a hermeneutical/understanding approach – emphasising the ability to assign meaning to information and to put it into use.

2.1.1. The information technology approach

This approach focuses predominantly on the lack of access to and/or use of modern digital technologies and is based on the assumption that there is a causal relationship between the level of education, the socio-economic and political status of people and their ability/inability to afford and access information via modern digital technologies. The approach is based on the assumption that in most cases, particularly in the developing world, there is a high cost associated with access to digital content, which means that that poor and marginalised people will in most cases be excluded from accessing and using essential information that is available in digital format. This, according to the argument, will lead to the marginalisation of poor people because even though modern digital technologies have accelerated the production and distribution of information, it has also widened the gap between those who have access to and use of information and knowledge and those who do not.

It is important to highlight the fact that this approach is broadly speaking based on two premises. The first is that digital technologies have the capacity to simultaneously create nearly unlimited opportunities for billions of people to access information at the same time, but in the same vein can exclude as many people from accessing information. Modern digital technologies can therefore have a direct impact on poverty (excluding people from accessing information needed to address basic needs), but can also help to alleviate poverty by making available the very information that is needed. The fact that most information needed for socio-economic and political activities is in digital format also implies that these technologies can cause informational disadvantages.

2.2.2. Content/access approach

According to this approach, information and knowledge poverty is largely a matter of information content and focuses on the ability to access the information that is needed for human development and prosperity. It is argued by among others Lievrouw (2000), Norris (2001) and Webster (2002) that access to information needed for development and economic growth has become more and more unavailable or scarce. Habermas (1989) also questions the quality of information that is available in

the public sphere, which is according to him not only inadequate but also unreliable and even at times irrelevant. Benkler (2006) makes the point that the wide range of laws and policies such as telecommunication policies, intellectual property laws and international trade regulations have all affected the “ecology of the digital environment” (Benkler, 2006:2).

Schiller (1983, 1984, 1991) refers to the “information gap” that is created by the so-called pay-per society – at the expense of those who cannot afford to pay for relevant information. This information gap is created by an information marketplace that benefits only those who are materially better off and educationally privileged, who can afford access to more advanced information infrastructures (Wi-Fi and high speed Internet), and also, based on their level of education, can benefit from the use of the information. Schiller argues that the less affluent population is mostly exposed to less valuable and cheap information and that little use can be derived from the information it is exposed to. It is of course true that the Internet has brought about a radical change with regard to the information that can be accessed around the world. This is particularly true of the development of the so-called MOOC – the massive open online courses that provide free access to educational material by top ranking universities to everyone in the world who has access to the web (New York Times, 2012).

Both World Summits on the Information Society (WSIS) (2003, 2005) reiterate the value of accessing relevant content in support of human development and economic growth. The first principle proposed at the 2003 Summit reads as follows: “A people-centred, inclusive Information Society where everyone can create, access, utilise and share information and knowledge, enabling individuals, communities and people[s] to achieve their full potential and improve their quality of life in a sustainable manner” (United Nations Libraries and the Information Society, 2003:1). In the WSIS Draft Declaration of Principles it is also recognised that “technology alone cannot solve any political and social problems. ICTs should therefore be regarded as a tool and not an end in themselves” (World Summit on the Information Society, 2003).

A number of prominent library associations have a strong tradition in support of access to information needed to improve quality of life and to secure and protect the right to freedom of expression and intellectual freedom. At the 2003 WSIS, the International Federation of Library Associations (IFLA) issued for example the following declaration “[...] libraries and information services are key actors in providing unhindered access to essential information for economic and cultural advance. In doing so, they contribute effectively to the development and maintenance of intellectual freedom, safeguarding democratic values and universal civil rights. They encourage social inclusion, by striving to serve all those in their user communities regardless of age, gender, economic or employment status, literacy or technical skills, cultural or ethnic origin, religious or political beliefs, sexual orientation and physical or mental ability. The communities they serve may be geographically based or increasingly linked only by technology and shared interests” (World Summit on the Information Society, 2003). The American Library Association (ALA) codifies also the right of access to information in their code of ethics and the Library Bill of Rights ([ww.ALA.org](http://www.ALA.org)).

2.2.3 Hermeneutical/understanding approach

This approach to information and knowledge poverty is neither based on the dichotomy between rich and poor, nor the digital divide. It presents a hermeneutical view of information as content focusing on the ability of people to understand, interpret and apply the meaning of content in different contexts. As such it is related to the theory of understanding and defines information as understanding (Introna, 2011). According to Lievrouw and Farb (2003:516) it is grounded in a phenomenological and constructivist view of information.

Information as understanding therefore implies that it is not enough to have access to

information. What is important is the ability to assign the 'correct' meaning to the information accessed to enable the 'right' application thereof. Due to the different interpretation possibilities and different contexts, it becomes a question of what is the 'correct' interpretation of information (Gadamer, 1975). Different people have different perspectives and levels of education. The essence of understanding however brings to the fore the need for education that will enable the ability to assign meaning to information, thereby putting information to use as knowledge. Education is therefore key in this approach.

3. Own description of information and knowledge poverty

Information and knowledge poverty can affect everyone, depending on their context, levels of understanding and means of access to information needed in a particular context. It is therefore not only an individual, but also a societal and global phenomenon. It has a clear economic dimension (for example a lack of means to pay for information) but also has an impact on the socio-culture and political spheres of life. It is furthermore an 'instrumental form' of poverty because information and knowledge are instrumental and essential in human activities and a lack of access to essential information and the inability to assign meaning to information can affect all aspects of a person's life. Finally, it is difficult to quantify and measure information and knowledge poverty statistically. It is for example nearly impossible to measure an individual's ability to transform information into meaningful knowledge, to measure a specific attitude towards the value of information, or to measure to what extent a person was able to assign the 'correct' meaning within a specific context to information.

Key to the understanding of information and knowledge poverty is that it relates to the availability and accessibility of quality and relevant information that a person or society is in need of to address his/her needs, not only to survive but also to lead a meaningful life and to become who they want to be and to create economic welfare. Accessibility to information is also closely linked to the ability to assign meaning to the information and put it to use. Information and knowledge poverty is therefore also a matter of education and concern about the attitude of individuals towards the value of information. As such it is not only an economic occurrence but has a huge impact on the sociocultural spheres of any society.

Information and knowledge poverty can therefore be defined as follows:

The situation in which individuals and communities, within a given context, do not have the requisite skills, abilities or material means to obtain efficient access to information, interpret it and apply it appropriately. It is further characterised by a lack of essential information and a poorly developed information infrastructure. Resources needed to satisfy human needs are in most cases inaccessible because the information about these resources is not unbundled and therefore not available to humans to use to gain access to these resources (Britz, 2004:199).

Information and knowledge-poor societies therefore lack access to essential information needed to address their basic needs and to foster development and economic growth. This can be because of a lack of a well-developed information infrastructure or simply a lack of material means to pay for information needed. In most cases information and knowledge-poor societies are not well educated and lack the intellectual and technical skills to search for and access information and to apply 'meaningful' meaning to information – in other words to put information to use (knowledge) and to benefit from it.

From an information and knowledge poverty perspective I argue therefore that poverty should be redefined as "the state of a person with insufficient resources, including information, as well as the inability to know how to use and add value to the resources to satisfy needs". It is not just an instrumental form of poverty, but if not addressed through education and an investment in information

infrastructure, development will be chronic and long-lived and it will be very difficult to break the cycle of this form of poverty.

4. Relativity of information and knowledge poverty

Just as most other forms of poverty, information and knowledge poverty is also relative in nature and it is possible to distinguish between different degrees of information and knowledge poverty. It can also be context specific. For example, a highly qualified engineer living in China might not benefit from all the relevant information in her field that is available on the Internet because of her inability to speak or read English. She may therefore be regarded in this specific context as information and knowledge poor. The same individual will however be regarded as information and knowledge 'rich' in a different context where there is access to Chinese literature on the same Internet but from a different website.

Also, a rural community living somewhere in the world may have benefited from a government-funded project to develop a highly sophisticated information infrastructure connecting the community via the Internet to the outside world. However, if it is an uneducated population, who does not have the skills to use the Internet appropriately nor the levels of education needed to participate in a meaningful manner in the different socio-economic activities offered through the Internet, such an investment will be of little use to the people it was intended to help. Even though a community may have access to a well-developed information infrastructure (as per this hypothetical example), its members can still be regarded as information and knowledge poor because of their inability to gain meaningful access to the information available on the Internet and to put it to use in support of their needs. The community in this example can therefore (from a knowledge perspective) be judged as information and knowledge poor.

5. Different contexts of information and knowledge poverty

From a hermeneutical understanding of information one can argue that information and knowledge poverty is codetermined by the context within which individuals find themselves. In the 2004 article (*Journal of Information Science*) I define an information and knowledge context as including the messages and symbols that a person encounters through conversations and interaction with others by means of a variety of media and their senses. Different people, depending on their diverse cultural and educational backgrounds and *Weltanschauung* (worldview), might have different interpretations and understanding of the same information. The implications are clear: A person sharing the same space and context as someone else may be able to assign appropriate or even 'correct' meaning to specific information, for example a person living in a rural village might know exactly where to wait for a taxi even though there are no signs for taxis. Such a local villager can be considered information and knowledge rich in a specific context due to the ability to assign the correct meaning to 'taxi information'. A first-time visitor to the village may, as an outsider, not be able to assign the same meaning to the 'taxi information' and will therefore in this context be considered as information and knowledge poor. Locals share a common information culture and are able to share and understand information in a meaningful way. The visitor is excluded from these social networks and is therefore, in terms of understanding and applying local knowledge, considered to be information and knowledge poor, which creates a condition of 'information and knowledge dependency' and relying on the local villagers for his/her information needs. Meaningful social interaction, based on the contextual social networks, is therefore arguably not possible within an unfamiliar information context.

Information and knowledge poverty and this form of alienation is unfortunately not limited only to individuals and visitors to local villages, but has also a global impact. This is specifically true of those communities that are not fully part of the 'language and cultural globalisation'. Many

communities living in rural and less developed parts of the world are more and more estranged from their local political and socio-economic systems, as well as their indigenous and familiar ways of sharing knowledge due to the rapid and (in some cases) unwanted introduction of modern digital technologies – in particular social media. Language also plays its part. English has become to a large extent the lingua franca of the Internet and the dominant language of the global economy, creating nearly unbridgeable language barriers for mostly the less developed non-English-speaking communities around the world. This socio-cultural and economic estrangement and dependency has the potential to create asymmetric power relationships, forcing many local communities to depend on others for access to and interpretation of relevant and essential information that is needed for development and economic prosperity in their own communities. This situation creates, according to Rose (2005), 'soft power' and an asymmetric relationship of understanding. Robins and Webster (1999:74) correctly remark that "[...] new technology is a mystery, and it remains a mystery even when its technical functions are explained in simple terms, because its genesis – its social history – is ignored. It comes to native people without history as an unstoppable force. These people only understand that they have to change their whole way of life".

6. Quantitative and qualitative indicators of information and knowledge poverty

As stated earlier, information and knowledge poverty is complex and so are the indicators, both qualitative and quantitative, that can be applied to measure this kind of poverty. It has significant limitations mainly because of the nature of information and knowledge, as well as the challenge to understand and determine the true perceptions of information and knowledge-poor individuals and communities. Statistical measures can be misleading and their interpretations can be one-sided. It is also very difficult to describe the true perceptions of information-poor people.

Within the context of these limitations, I will however attempt to identify a number of qualitative and quantitative indicators that can be used to measure information and knowledge poverty. It is my hope that these indicators will offer some useful insights into the real complexity of information and knowledge poverty, the various reasons for information and knowledge poverty and the moral implications thereof. I prefer to use a combination of both quantitative and qualitative descriptions of information and knowledge poverty.

6.1. Quantitative indicators of information poverty

The development of quantitative indicators to measure the digital divide (information and knowledge poverty) has gained momentum over the last decade. The World Bank (World Bank Reports) and the United Nations (Human Development Reports), for example, regularly publish comparative statistics regarding the digital divide. Indicators used include the number of telephone lines per 1000 people, access to the Internet, literacy rate, access to cable TV, number of personal computers in homes, the usage of social media and number of cellular phones (The Global Information Technology Report, 2003/2004). It is however important to point out that these measures are context specific and cannot accurately capture all the factors that contribute to a situation of information and knowledge poverty. I have specifically in mind variables such as attitudes towards information and levels of intelligence, language skills, the role that gender plays in education, position in society, as well as the role that different information contexts play in the ability to assign meaning to information. Mansell and Wehn (1998:34-39) tried to bridge the qualitative and quantitative gap by using the so-called INEXSK approach. It measures INfrastructure, EXperience, SKills and KNowledge. INEXSK is a footprint analysis, as it measures knowledge societies against a so-called 'ideal knowledge indicator'.

6.2. Qualitative indicators of information poverty

To measure information and knowledge poverty qualitatively is even more challenging, because it implies the interpretation, construction and understanding of the living experience of those exposed to the different forms of information and knowledge poverty.

These life experiences, which form the basis of the qualitative measurement of information and knowledge poverty, have a bearing on the following information-related behaviours of individuals and communities:

- How people value information
- How they react to information
- The ability to understand their information needs
- Knowing where and from whom to obtain needed information
- The ability to evaluate information and to put it into use effectively
- The ability to communicate and share information
- The skills to create new knowledge

7. Main causes of information and knowledge poverty

There are many causes contributing to a situation of information and knowledge poverty. One of the main reasons is most certainly the lack of access, or the inability of people to access essential information needed to address their basic needs and to support their decision making towards growth and economic development. The World Bank, in its Report on Knowledge for Development, illustrates the relationship between access to information and the ability to use it in a powerful manner. In the report it is argued that people might lack the ability to assess (assigning the correct meaning) the quality of the food they eat. This can lead to incorrect decisions affecting their health and overall quality of life. This inability is defined by the World Bank as a lack of knowledge about attributes (1998/1999:2). I added to this category of information and knowledge poverty knowledge about knowledge, which refers to the lack of expertise or skill required necessary to master the information technology. The latter enables access to the much needed information as well as the ability to assess and value the information (information literacy).

Access to information and the ability to assign the correct meaning (attributial knowledge) to it do not always guarantee that basic needs will be addressed or met. It might even create false expectations. The correct phone number of a nurse (essential and correct information) may be useless if the nurse is not available.

Fundamental to the understanding of information and knowledge poverty is most certainly the impact of digital technologies on the different socio-economic and cultural spheres of life and the global integration thereof. Not only did it introduce globalisation and advanced capitalism, but it has also divided the world between those who have access to these technologies and 'the others' (Friedman, 2005).

8. Conclusion

In this chapter I argued that information and knowledge poverty is not a new concept and the experience of being information and knowledge poor is as old as human history. Based on a thorough literature overview I came to the conclusion that, although the notion of information and knowledge poverty is used widely, there is little agreement on what exactly it means. I identified three major interrelated approaches to information and knowledge poverty in the literature. These are: 1) an information connectivity approach focusing on the connectivity to modern information and

communication technologies; 2) the content approach where the focus is on the effect of the unavailability of essential information to people and 3) the hermeneutical/understanding approach, which I defined as the knowledge or 'understanding' approach where the emphasis is on the ability of people to apply meaning to information and to benefit from it.

Following from the literature study, I proposed my own approach to information and knowledge poverty. In my further deliberations on information and knowledge poverty I illustrated that different degrees and levels of information and knowledge poverty can be distinguished and that it is possible to measure these qualitatively as well as quantitatively. In the final section I discussed the main causes of information and knowledge poverty.

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