NIGERIA'S ETHICAL ISSUES IN THE USE OF ICT

Isa Ali Ibrahim FBCS, Director-General/CEO, National Information Technology Development Agency (NITDA), reports on the ethical challenges Nigeria faces as it embraces the digital age.

Ethics refers to the moral principles that govern the behaviour of a person or group. Every society and profession should have principles that determine what they classify as ethical behavior. Information and communications technology (ICT) is an umbrella term that describes all the technologies that are used for the creation, transmission and modification of information. In line with this, information ethics has been defined as 'the branch of ethics that focuses on the relationship between the creation, organisation, dissemination, and use of information'.

The foundation of computer ethics was laid down by Prof. Norbert Wiener, of the Massachusetts Institute of Technology, during the First World War, when he designed anti-aircraft cannons and foresaw revolutionary social and ethical consequences of information feedback systems. However, he did not use the term 'computer ethics'. That recognition goes to Walter Maner who used the term to refer to the field of inquiry that deals with ethical problems aggravated, transformed or created by computer technology. As such, ICT essentially only provides new outlets for old ethical problems.

ICT has an increasing level of influence on the way we live, shop, work, play and learn. It essentially permeates every fabric of our lives and plays a key role in the evolution of ethics/ethical behaviour. ICT does not necessarily redefine ethics; rather it just generates new ethical issues. As our lives get further intertwined with cyberspace, it has become necessary to pay closer attention to the ethical use of ICT.

ICT professionals now have access to a lot of confidential information such as health records, GPS coordinates of transportation fleets, financial records and more. This level of access has heightened privacy concerns and privacy is considered to be one of the most important topics when it comes to the issue of ethical behavior. However, with the growing incidence of cyberthreats, there is now an urgent need to balance the demand for privacy with that of security. As such, in order to ensure the ethical use of ICT, it is important to strike a balance between privacy and security.

This article discusses some of the ethical issues that result from the use of ICT in Nigeria and includes some recommendations on how to promote ethics in the profession.

Ethical issues in Nigeria

Social media has brought many well documented advantages and disadvantages. It aids communications but, ironically, also creates a tendency to increase social isolation, described as 'being lonely in a crowd'. It has also increased incidences of hate speeches and fake news. Social media also opens a whole new vista of other ethical concerns, such as: cyberbullying, cybersquatting, and exposure to sexual predators.

We are experiencing a rising app-culture as a result of a rapid growth in the number of smartphones equipped with sophisticated embedded sensors. Many of these apps harvest user data from these phones to facilitate their operations. Unfortunately, this data can fall into the hands of unethical professionals who may intrude on the privacy of unsuspecting users.

The anonymised versions of the harvested data can be passed through data analytic engines to provide valuable insights that can be used for social good. However, the same data can be used in an unethical way when it is given out to third parties for pecuniary gains. The recent alleged scandal involving Facebook and Cambridge Analytica is a case in point.

Across the world, changes in the legal system usually lag behind the changes in society. In the same way, the rate of development of technology far outstrips the rate of development of technology laws and this generally creates a policy vacuum. As such, it is important to note that an action may be considered to be unethical even if it does not violate any laws of the land.

Other common unethical attitudes like lying, cheating, stealing and being abusive can easily be enhanced by ICT. Recent

research on online honesty, published in the *Computers in Human Behaviour* journal, suggested that lying online is the rule and not the exception with only 16-32 per cent of respondents in the study indicating that they tell the truth when online. Identity theft, scamming and e-banking fraud have also significantly increased in scale as a result of ICT.

Technology and society evolve
The ethical issues of the Third Industrial Revolution are likely to pale in comparison to issues that will come up in the Fourth Industrial Revolution (FIR). The FIR has resulted in the blurring of lines between the physical, biological and digital worlds, resulting in technologies that are expanding at an exponential rate. Artificial intelligence (AI) is now gaining prominence and has led to legitimate concerns about their potential use for unethical behaviour. In fact, the late Stephen Hawking warned that AI could provide 'new ways for the few to oppress the many'.

Recommendations
In order to reduce the level of unethical behaviour in the use of ICT, Nigerians need to embrace a new paradigm and realise that ethics and the pursuit of profit are not mutually exclusive. In fact, organisations which are ethical in the design and deployment of ICT solutions are likely to be more sustainable, more robust and

more profitable than those who are not. An increased level of advocacy can help to entrench this new paradigm.

A number of professions require their members to take an oath as part of their requirements for being inducted into the profession. The medical and legal professions are good examples of this. For example, the Hippocratic Oath is taken by doctors who swear to uphold a number of professional ethical standards. ICT practitioners have access to large amounts of sensitive data and inappropriate use of this can cause even greater harm than unethical doctors can cause their patients.

A few strands of computing already administer oaths. For example, before being issued a certificate in ethical hacking, participants are required to sign an oath that they will only 'hack for good'. We need to go further to enforce these oaths and we need to have some kind of feedback mechanism to run random anonymised checks on ICT practitioners to determine the level of adherence to ethics in the ICT sector. A variant of the whistle-blowing policy introduced by the federal government to curb financial crime can be adopted in the ICT profession to curb unethical practice.

A number of ICT bodies have introduced a professional code of ethics which is also alluded to in the oath of membership taken by members. However, in order for ethics to become the bedrock for practicing ICT in Nigeria, it is critical that topics related to ethics are embedded in the curricula for ICT training at all levels - from the primary to the tertiary levels. It will also be useful to include ethical courses in informal ICT training as well.

Consider the environment
Regardless of the profession, ethical behaviour should include care for our environment. Electronic waste has become a challenge in Nigeria. It refers to how unwanted, obsolete or faulty electronic equipment is discarded. The copper and gold taken from these devices can also generate some considerable amount of revenue. However, the waste can produce harmful emissions that can accumulate in soil, water and food, leading to harmful health issues.

According to the findings of the UN Basel Convention E-Waste Africa Programme, as at 2010, 1.1 million tonnes of E-Waste is generated in Nigeria annually. The same report suggested that this waste can rise as much as 500 per cent by the year 2020. As such, the proper disposal of this waste is an ethical issue that requires urgent attention.

Enforcement
In recent times there has been a lot of talk about the use of drones for social good. There are a lot of merits for this, as these drones can be used for several noble purposes such as the prompt transportation of vital medical supplies to remote locations, curbing pollution and even for the provision of internet access. However, the camera and other sensors on these drones can easily be used to harvest sensitive data without the consent of users along the drone's trajectory. It is important to hold the users of these drones accountable to ethical standards.

Enforcing guidelines is another way to strengthen the resolve of organisations to embrace ethics in ICT and institutions responsible for the regulation of ICT will need to continue to champion this cause. The National Information Technology Development Agency (NITDA) is currently on an active drive to promote ethical behaviour in the use of ICT in Nigeria, especially in the public sector.

The Agency reviews and clears all ICT projects in the country to ensure sustainability, value for money and reduction in waste. An active list of registered ICT experts is also being maintained to ensure that these government funded ICT projects are executed by competent and accountable professionals.

The incorporation of ethics
The frenetic pace of development of the ICT sector has generally improved the way we live, but it has also increased the outlets for unethical behaviour.

However, we can still improve the level of ethical behaviour among ICT practitioners through advocacy, incorporation of ethics into the training curricula at all levels, and the enforcement of relevant guidelines and standards.