

Does New Technology Require New Ethics?

GEETANEE NAPAL

Faculty of Law and Management
University of Mauritius
vnapal@uom.ac.mu

Abstract—Problems associated with technological advances must be addressed, if the aim is to promote intelligent and knowledge-based systems. Emerging knowledge-based systems are already vulnerable to ethical issues, based on economic exigency, which makes them particularly sensitive to the ethical dilemmas generated by the powerful forces driving change in the average knowledge-based system. As technology revolutionizes the speed of communication worldwide, the dispersion of information is relatively easy, thereby enhancing an on-going learning culture in emerging knowledge-based economies. However, although the Internet enables rapid transmission of huge amounts of data in little time, technological advances potentially carry risks like breach of confidence, copyright infringement, virus transmission and computer hacking, amongst other things. The question that arises is whether knowledge-based economies should be viewed as a new entity that calls for new ethics and values. This paper focuses on ethical issues in an era where technology and globalization are driving the new economy, calling for a new ethical dimension.

Keywords: *ethics; information and communication technologies (ICTs); knowledge-based systems; technology*

I. ETHICAL ISSUES DERIVED FROM NEW TECHNOLOGY

Technological advances present numerous advantages, provided the right infrastructure is put in place to allow organizations to make the best possible use of relevant opportunities. In emerging economies, knowledge presents a key competitive advantage to organizations and people. There is a need, therefore, to formulate a clear vision that would give way to appropriate values, skills and professional competencies required of intelligent and knowledge-based systems. New approaches to leadership, human resource development, organizational development/change management, and information and communication technologies should be developed. Information must be managed differently because information flows take the form of communicated knowledge of a comprehensive nature. Knowledge-based systems have developed rapidly in both the Western world and in major industrialized nations like China and India. Along with this growing importance of information and communication technologies (ICTs) however, numerous ethical issues have emerged. While ICTs have become omnipresent in contemporary life, we cannot oversee the ethical problems that are experienced as such technologies evolve. This paper focuses on issues likely to affect emerging knowledge-based systems as a result of technological evolution. These issues include access to ICT

infrastructure and education; distribution and use of power; corrupt practices in the form of bribery and favouritism; infringement of property rights and/or property theft; information gathering through spying. Following this, we address the question of whether ‘new ethics’ is needed to handle ethical issues arising from technological advances.

While Mehra et al. (2004) lay emphasis on the “potential of the Internet to improve everyday life for those on the margins of society and to achieve greater social equity and empowerment” (p. 782), numerous scholars, policy makers and the public at large have expressed concern over the negative impact of technological advances. Although there is the logical expectation that globalisation should impact positively on any nation, ethical issues arising with the advent of knowledge-based systems should not be underestimated. Of the main forces that lead to ethical problems in emerging knowledge-based economies are technology, globalisation, and access to education. As technology revolutionises the nature and speed of communication across nations, the risks that accompany such rapid evolution – cyber crimes; hacking; cyber scams and frauds; Internet defamation; software piracy; copyright infringement – cannot be overlooked. In the business community, the Internet is considered as a major channel for commercial transactions. Consequently, on-line business has given rise to several potential ethical issues relating to honesty and integrity; responsibility, accountability, privacy and confidentiality, protection of data (e.g. credit card numbers), freedom from invasiveness (e.g. websites that automatically track and retain customer contact and information). Other issues at stake include the quality of goods delivered, disclosure and reliability of information, sources of goods, and Internet economics versus traditional economics. Internet economics compels us to consider the impacts of global Internet business, employment through the net (e.g. local and global telecommuting), web advertising, competition on the Internet (computer hacking and falsification of data), and public information and financial disclosure. Technological evolution is inevitably going to lead to disparities across borders, hence the significance of the digital divide.

II. LIKELY OUTCOME OF THE DIGITAL DIVIDE

‘Digital divide/gap’ refers to the disparity between those populations who have regular, effective access to digital and information technology and those without equivalent access. It generally encompasses both physical access to technology hardware and more broadly, skills and resources

that allow for its use. It can refer to both international as well as domestic disparities in access to information technology. It can also refer to the skills people have – the divide between people who are at ease using technology to access and to analyse information and those who are not. More expansively, the digital divide is referred to as “a symptom of a larger and more complex problem: the problem of persistent poverty and inequality” (Servon, 2002: 2). Mehra et al. (2004) lay emphasis on the four major components that contribute to digital divide. These are “socioeconomic status, with income, educational level and race among other factors associated with technological attainment” (p. 782). The digital divide could be the outcome of various factors worldwide. There are certain measures that can be adopted if the aim is to improve business relations across frontiers.

Forces like communication technology, modern infrastructure and free trade enable greater mobility for people, thereby facilitating interaction amongst business partners (Hagan and Moon, 2006). Technological advances are bound to differ across countries, and the digital divide is bound to have more serious repercussions on emerging knowledge-based economies that have limited means to invest in information and communication technology. In such an environment, business people are more likely to engage in questionable practices in an effort to either ‘match’ the standard of their business counterparts on the global market, or simply avail of ‘opportunities’ that lead to easy money. The digital divide could also be the outcome of an imbalance of diffusion of ICT infrastructure, high online charges, insufficiently trained staff, imperfect network legation and information resource shortage in international languages. Some less wealthy nations may have difficulty achieving connectivity, in particular in rural areas. The lack of purchasing power or low population densities in less favourable regions could deter telecommunication providers from investing in broadening their networks.

Inevitably income constitutes a problem in emerging knowledge-based systems. Even if the problem of infrastructure for connectivity is resolved in suburbs, high costs of Internet-compatible computers still have to be faced. Market forces may push Internet Service Providers to “shy away from investing in these regions that show little promise of short-term profits” (Wilhelm, 2004: 133-134). Wilhelm’s findings imply that preference is given to more favourable areas, more than likely urban settings to the detriment of rural ones, in some countries. Education levels can potentially influence computer access and access to the Internet: those with higher levels of education are more likely to be equipped with information and communication technologies. Similarly, education is closely correlated to income, which obviously facilitates the purchase of ICTs and inclusion in both home and work settings. However, when income levels are taken into account, those with higher educational achievements may benefit of higher rates of access. It is equally important to note that disparities in education levels are a reality in the developing world.

III. ABUSE OF POSITION AND ETHICAL TRANSGRESSION

Illiteracy constitutes a major problem in emerging economies, where knowledge-based systems have yet to be consolidated. In some places, public expenditure is manipulated and driven away from growth-promoting areas and essential services like education and ICTs. Sometimes public funds are diverted to where bribes are easy to collect. The culture of corruption that prevails in developing nations diverts public goods from ever reaching the poor. In addition, the latter are victimized as they are expected to pay bribes for public services that they are entitled to, free-of-charge (Werhane et al., 2008). There are even instances where the authorities hold back their services because they have no guarantee of economic payoff. Already there is evidence of a concentration of public spending in low-productivity projects such as large-scale construction to the detriment of value-enhancing investments like improvements in the quality of social infrastructure and ICTs (Blackburn et al., 2006).

The abuse of discretionary power and monopolistic nature of the State can only breed ethical issues by increasing the inequity between rich and poor countries. In countries with an individualistic culture where the concept of particularism prevails, there is the perception that one’s immediate obligation goes to one’s relations. This view overrides one’s notion of duty as spelled out by basic concepts of ethics. This can in turn give rise to corrupt practices in the form of favouritism and nepotism. Democracy in emerging economies tends to encourage the abuse of power to suit one’s vested interests. These nations may not have effective systems of checks and balances, which tends to give way to greater political access coupled with greater flexibility with the way public funds are dispensed (Mohtadi and Roe, 2001). The abuse or misuse of funds directly impacts on the progress of an economy. Emerging knowledge-based systems tend to be at a disadvantage if the political class use their discretionary power, giving priority to low-productivity projects to the detriment of vital services like education and ICTs, which are prerequisites to the proper development of knowledge-based systems.

Traditionally, intellectual property belonged to developed countries. Therefore, the developed world regards the protection of intellectual property as important, given that such property brings wealth to mankind and helps achieve progress. However, developing countries have cultural achievements such as their cultural heritage and folk arts that they consider valuable and thus, deserve to be protected as well. Intellectual property may be tangible or intangible. Are intangible forms of property like software, product formulation, formulae, inventions or processing techniques recognised as such? Intangible property can be far more valuable and difficult to protect than tangible assets. It is hard to put a value on intangible assets like the ability to innovate; codified knowledge about products and processes; employee assets in the form of talented people and human capital. While being highly precious to the organisation, these assets are also vulnerable

to infringement and theft (Hagan and Moon, 2006). Property theft can take the form of insider trading, counterfeit products, or price gouging. Insider trading takes place when one uses privileged information as one's own. A common form of theft is the use of proprietary information to further another firm's ends. Such information is normally accessed through the unauthorised use of company computers and programmes (Fritzsche, 2005). What exactly constitutes ethical transgression? What restrictions can and should be placed on different forms of property, including digital information?

If people in poor countries feel that they are not at par with their business partners on the global market, they could engage in unethical competitive behaviour in an attempt to match the performance of their rivals. Crane and Matten (2004) refer to industrial espionage through questionable practices in the normal business settings in European context. Business people can instigate a process of intelligence gathering through spying by having recourse to suspicious means. In the process, the legal and ethical practices underlying conventional information gathering or market research are deliberately flouted. Spying and information gathering can potentially contravene the privacy and confidentiality of competitors and/or other stakeholders. In places where bribery represents a normal way of doing business, illicit payments can be offered to induce competitors' employees to access confidential information and trade secrets.

If all these issues are taken into consideration, it is obvious that knowledge-based systems are at risk. In order to protect themselves and to retain their goodwill, business people may have to invest in resources to preserve trade secrets, patents, copyrights, trademarks and intellectual property rights including rights on intangible property like software, product formulation, processing techniques, to name but a few. The development of new technologies will keep encouraging ethical debates on what exactly constitutes intellectual property (Crane and Matten, 2004; Ghillyer, 2008). Taking all this into account, there is a need to acknowledge the seriousness of problems that can potentially be caused by forces driving change in global context. The next part of our discussion focuses on whether we need new ethics to address the ethical issues accompanying technological progress.

IV. DO WE NEED NEW ETHICS?

Phenomena like illicit information gathering, unauthorised accessing and exploitation of intellectual property, property theft have accompanied on-going developments in technology (Crane and Matten, 2004). As computer ethics and digital divide continue to grow in importance globally, questions arise as to whether business ethics should be re-thought (Ghillyer, 2008; Hagan and Moon, 2006; Hartman and Desjardins, 2008; Suresh and Raghavan, 2005). Bearing in mind the characteristics of business, both the legislation and notions of ethics need to be reinforced to cope with changing tendencies as well as to handle the basic ethical issues that accompany new technology. Unless business people thoroughly understand

the law, it will be hard to manage the ethical issues brought about by the misuse of communication technology. Alongside with the law, a culture of ethics should be instilled, so as to deter harmful business practices that can potentially lead to serious losses and long-term economic decline.

Ghillyer (2008) lays emphasis on the ten commandments of computer ethics and raises the question as to whether some new code should be adopted for the global community. In spite of the existence of the United Nations' Non Governmental Global Compact and the Organisation for Economic Cooperation and Development Guidelines for Multinational Enterprises, ethical misconduct still exists in international business. Ghillyer (2008) proposes a global code of conduct as the solution to moral issues encountered in the context of globalisation. Does the problem not lie with the interpretation of concepts of ethics and codes of ethics that is, with enforcement? After all, ethics codes exist worldwide but are subject to varying interpretation, as are universal principles. As they are not legally binding, codes of ethics tend to be regarded as optional while business people have a tendency to underestimate their importance, giving priority to short-term gains.

While business partners should fulfil their responsibility towards their stakeholders, it is the duty of every responsible government to lead by example and breed a culture of ethics at national level. It is equally their responsibility to bridge the gap between rich and poor economies, and foster corporate social responsibility. They should sustain their efforts towards the convergence of ethics by providing the necessary infrastructure at national level. This includes putting in place appropriate telecommunication devices. There is evidence that political people, in emerging nations, sometimes welcome corporate investors under 'flexible' terms in an attempt to boost economic growth (Alatas, 1999). In this endeavour, public funds could easily be channelled towards sub-quality products, and intangible property in the area of ICTs constitutes no exception. If this were the case, governments could be deliberately inflicting economic and human rights abuses on their people in the name of growth. Alternatively, it can be argued that such behaviour suppresses the development of knowledge-based systems. Bearing all this in mind, ethics is there and should not only be viewed as an academic discipline. While there is no need for new ethics, both private and public sectors should reflect on their mode of doing business and ensure that they fulfil their duty towards their stakeholders. Technology offers a unique opportunity to extend learning support beyond the classroom, something unknown to the business community until recently. "The variety of functions that the Internet can serve for the individual user makes it 'unprecedentedly malleable' to the user's current needs and purposes" (Bargh and McKenna, 2004: 577). In addition to this view, there is a perception that the building of an information society is the key to economic development and modernization (Dey, 2005), implying that this would naturally pull an economy out of poverty. Ideally, new technology should contribute to the development of depressed regions and promote global

citizenship and human rights amongst other positive things (Argandona, 2008; Richter and Mar, 2004). However, in economies or contexts where people do not understand technological improvement, they may not be as effectively positioned to benefit as quickly from such advances (Hartman and Desjardins, 2008). This implies that they may not be adequately prepared to handle the challenges associated with high-tech advancement. In the circumstances, the priority of major stakeholders – the government, state-owned enterprises, business entities, research institutes, universities – should be to invest in the right infrastructure so as to educate their people. Governments should invest in education and continuous learning, so as to ensure that every citizen benefits from equal chances.

Telecommunications infrastructure should be developed and sustained in a consistent manner with proper strategic thinking. Should governments of emerging nations not pursue reform as part of their national policy to promote their economy on the global market through science and technology? Should they not encourage industrialisation by virtue of IT development and explore means of further developing information technology to accommodate their own needs on economic, social and political fronts? Does the fact that the domestic telecommunication market is gradually opening up to foreign investors and competitors not justify increasing investment in the telecommunication arena, in emerging knowledge-based systems? Countries that are members of international bodies like the World Trade Organisation are at an advantage. Such affiliation acts as an external drive force for them to persevere at pursuing and sustaining reform in the field of telecommunications and technology. Technological reform should be the priority of all economies involved in global operations, irrespective of how developed they are.

Information strategies and policies should support and enable a knowledge culture. At a national level, we need proper legislative, regulatory and fiscal frameworks that encourage and support the creation and sharing of knowledge, thereby enhancing creativity and innovation. Educational institutions and Governments should establish appropriate information literacy skills and behaviours that the education system and lifelong learning programmes must provide, for the smooth evolution of the knowledge-based system. Both organizational and individual competitiveness should be promoted in emerging knowledge settings. Government policy should make provision for the development and promotion of standards and good practices that would help manage all types of information in knowledge-based organizations, while easing organisational competitiveness. At an individual level, new skills and behaviours should be encouraged to enable individuals optimize their potential and play an active role in the evolution of the knowledge-based system. Along with organizational and individual competitiveness, information profession competitiveness – through embracing, informing and stimulating the wider information profession on all issues relating to the management of information in the knowledge-based system – should be

enhanced. Governments that do not respond to the challenges and opportunities presented by the emerging knowledge based system would face the risk of their economy becoming increasingly marginalised on the global market, as competitors take up emerging challenges and opportunities.

V. CONCLUSION

There are real communication problems in the developing world. For business to undergo proper development and control ethical transgression, people must be trained to contribute to high technology, satellite communication, bulk transport, e-commerce, computerization and robotics. Problems faced by emerging knowledge-based systems include low income, low education/literacy levels, language problems, disparity in knowledge dissemination and limitations of telecommunications industry, amongst other weaknesses. The way power is distributed tends to exempt policy makers from public accountability, hence driving talented people away from productive activities and encouraging unethical practices, thereby negatively impacting on growth.

Provided there is a will to invest in technological infrastructure, key stakeholders in emerging knowledge-based systems could undertake to successfully bridge the digital divide. This would give their people the opportunity to avail of ICTs and enjoy better conditions of life. Referring to the ethical issues likely to result from new technologies in a global era – access to ICT infrastructure and education; distribution and use of power; infringement of property rights; information gathering through spying – contemporary ethicists raise the question as to whether ‘new ethics’ is needed. As emphasized by Hagan and Moon (2006), technology, globalization, the increasing value of intangible assets and the ‘war for talent’ are all driving the new economy, creating a demand for new corporate paradigms. These forces are somewhat reshaping the way businesses manage their relationships in varying national, regional and international contexts with people and with other corporate entities.

Globalization calls for investment in information technology and systems, and new ethics that is, greater accountability, which in turn requires business leaders to re-think their approach to interacting on the global scene. The new economy certainly calls for a new ethical dimension. Organizations are faced with the challenge to prepare their workforce to avoid such conflicts. Businesses must manage such risks so as to preserve one of their key intangible assets that is, their reputation. Stakeholder relationships must be managed effectively to retain key resources and avoid ethical conflicts, in a context of global business.

REFERENCES

- [1] Argandona, A., ‘The New Economy: Ethical Issues’, *Journal of Business Ethics* vol. 20, 2008, pp. 3-22.
- [2] Bargh, J. A., & McKenna, K. Y. A., ‘The Internet and Social Life’, *Annual Review of Psychology* vol. 55, 2004, pp. 573-590.

- [3] Blackburn, K., Bose, N., & Haque, M. E., 'The Incidence and Persistence of Corruption in Economic Development', *The Journal of Economic Dynamics and Control*, vol. 30, 2006, pp. 2447-2467.
- [4] Crane, A., & Matten, D., *Business Ethics: a European Perspective*, New York: Oxford University Press, 2004.
- [5] Dey, B. R., *Business Process Engineering and Change Management*, Bizantra: Innovations in Management, 2005.
- [6] Fritzsche, D. J., *Business Ethics: a Global and Managerial Perspective*, New York: McGraw Hill International Edition, 2005.
- [7] Ghillyer A. *Business Ethics: a Real World Approach*, New York: McGraw Hill, Irwin, 2008.
- [8] Hagan, J., & Moon, C. 'New Economy, New Ethics' in *Business Ethics: Facing Up to the Issues*, The Economist Books, London: Profile Books Ltd, 2006, pp. 7-21.
- [9] Hartman, L., & Desjardins, J., *Business Ethics: Decision Making for Personal Integrity and Social Responsibility*, New York: McGraw Hill International Edition, 2008.
- [10] Mehra, B.; Merkel, C, & Bishop, A. P., 'The Internet for Empowerment of Minority and Marginalised Users', *New Media and Society*, vol. 6, 2004, pp. 781-802.
- [11] [11] Mohtadi, H., & Roe, T. L. 'Democracy, Rent Seeking, Public Spending and Growth', *Journal of Public Economics*, vol. 87, 2003, pp. 445-466.
- [12] Richter, F-J., & Mar, P. C. M.. *Asia's New Crisis: Renewal through Total Ethical Management*, World Economic Forum, Singapore: Wiley and Sons (Asia) Pte. Ltd, 2004.
- [13] Servon, L., *Bridging the Digital Divide: Technology, Community and Public Policy*, Malden, MA: Blackwell, 2002.
- [14] Suresh, J., & Raghavan, B. S. *Professional Ethics*, New Delhi: Chand & Co. Ltd, 2005.
- [15] Werhane, P., Kelley, S., Hartman, L., & Moberg, D., "Alleviating Poverty through Profitable Partnerships: Globalisation, Markets and Economic Well-Being", *Unpublished Manuscript*, (2008).
- [16] Wilhelm, A. G., *Digital Nation: Towards an Inclusive Information Society*, Cambridge, MA: MIT Press, 2004.