Coming to terms with a wired world? Challenges of information technology in the developing world

Usman A. Tar[†]

Abstract

In spite of the frenzy regarding the benefits and blessings of globalisation and information technology, it is premature to assume that there is equality in access to technology and attendant opportunities. It is equally premature to pretend that all countries are beneficiaries and, therefore, there are no victims of the globalisation. This is particularly true of developing world which is largely lagging behind in the so-called "digital divide". In this paper and the articles presented in the present Volume of *Information, Society and Justice*, it is argued that a number of challenges bedevil the desire by developing countries to enjoy equal access to the opportunities of globalisation and information technology. It is also argued that both globalisation and information technology reproduce and reinforce global inequality and hierarchy dominated by specific parts of the world.

Keywords

Globalisation, information technology, developing world, developing countries,

Introduction

The world is undergoing simultaneous revolutions – in spheres of information and communication technology, politics, culture and economic. In terms of information and communication technology, we are living witnesses to the breath-taking interconnections and instant communications unleashed by the internet and computer technology. Peoples instantly share information and ideas across boundaries and events are beamed live to all corners of the world. In the political sphere, we see the virtual collapse of traditional boundaries (states) and the phenomenal utilisation of information technology as a tool of interest articulation and aggregation by both conventional and clandestine actors[1] in the

---

[†] Department of Politics & International Relations, University of Kurdistan-Hawler, Erbil, Kurdistan Region of Iraq. Email: usmantar1@gmail.com or usmantar@ukh.ac

international system. Economically, the world economy is undergoing "bubbles and bursts" with threats of economic meltdown and double deep recession; these economic tremors are felts across national and regional boundaries. While advocating deregulation, it appears some countries, particularly developed capitalist ones, are practicing protectionism due to teething internal economic woes and domestic pressure. Further, at social and cultural levels, there are apparent dissemination of diverse values and distortions of social and cultural boundaries, so much so that the narratives and images from different parts of the world permeate each other with relative ease.

This editorial article introduces a special issue of *Information, Society & Justice* which examines the challenges associated with information technology in a globalising world with reference to developing countries. In doing so, the volume does not claim to reinvent the wheels or discover any new theory; rather it modestly offer some nuanced analyses drawing from fresh data and insights in the light of emerging realities.

The debate on technology: paradoxes and clichés

The debate on the benefit and challenges of globalisation and information technology is far from over. Nevertheless, there are certain cliché and paradoxes that are assuming prominence. First, it is commonly accepted that technology in general and information technology in particular are controlled, manipulated and dominated by certain regions and countries of the world. For instance, Europe and North America (perhaps with the exception of some South East Asian countries) are technologically far ahead of the rest the world and are known as the bastions of technology. Secondly, it is equally altruistic that the global South (again with few exceptions) is at the receiving end of a western-dominated technology and ideology. Deriving from the foregoing clichés, it is imperative to underscore the real and competitive values of IT to the developing world. Some questions are pertinent: what are the advantages and disadvantages to be derived from ICTs? Who appropriates or benefits from such technologies? How could ICTs be beneficial to all? Could ICT be managed to provide a level playing field for all? How could ICTs facilitate development in a sustainable, egalitarian and constructive way? Answers to these questions are as challenging as they are problematic.

It is important to make reference to the generic debate on technology (of which ICTs in part) and development. Wilson and Heeks (2004: 403-423) identify three distinct views: (a) technology as a solution (b) technology as a problem and (c) technology as embedded in social, cultural and economic relations. With regards to *technology as a solution,* it is a commonly accepted view that technology provides constructive solution to societal problems. Technological discoveries are hugely responsible for improving the lots of society: from keyhole surgery, to stem-cell research; and from telephone to internet, the world has made tremendous gains from technological innovations. Nevertheless, it is also worthy of note that so far technology have been rooted in, and appropriated by, the dominant centres of global power. Such appropriation takes place at the levels of knowledge, ideology and politics. To buttress how knowledge, ideology and politics are used to appropriate technology, a brief reference to history is pertinent. In the 1950s and 60s, the Modernisation paradigm was advanced by Western scholars and policy makers to "develop" less developed countries and "uplift" them to modernity. These new states were to benefit from ostentatious funding and technical support to carry out development projects. The Modernisation approach was strongly hinged on modern science and technology as the key to achieving "development", itself defined as

establishment of Western-type liberal social, political and economic structures and institutions. Thus, Western approach to "developing" or "modernising" the newly emerging post-colonial states of global south, emphasise transformation from traditional ways of doing things (value-laden intuition, superstition, customary beliefs), to modern scientific models (rationalism, objectivity, fact-based inquiry). We should appreciate the generosity of this approach. However, there are also criticisms: it was not rooted in domestic capacities and need; it was handed down by stronger, wealthier and supposedly enlightened capitalist states and institutions to weaker ones. Above all, apart from accepting the superiority of science and technology, developing states were to be consumers rather than producers of science and technology. This was because of the prevailing global balance of power which allocated inferior role to this part of the world. This approach certainly lacks humility, and was underpinned by ideological visions and preferences of powers of the day. In other words, technology is not neutral; it can be used in advancing specific ideological and cultural values. Thus, we turn out attention to a second cliché on technology namely technology as problem.

With regards to *technology as problem* the emphasis is that technology such as medical procedure or computers have side-effects. That is, technology can get out of human control and/or be manipulated to destructive effects.[2] As Schumacher notes, "modern world has been shaped by technology [which] tumbles from crisis to crisis; on all sides there are prophesies of disaster and, indeed, visible signs of breakdown" (quoted in Wilson and Heeks, 2004: 405). The damaging effects of technology have to be seen in relation to specific technologies and contexts. Consider, for instance, the use of internet by terrorist groups compared to its uses for legitimate commerce and decent social networking; or the proliferation of violent ideas and obscene images facilitated through internet technology as compared to the dissemination of good information. Consider also the use of nuclear technology for civil (peaceful) and military (violent) purposes. Concerns over harmful effects of technology should not becloud its numerous merits, as well as the fact that those side-effects can be overcome. For instance, several mechanism have been advanced to deal with possible problems associated technology: alternative technology and appropriate technology, both aimed at customising technology to satisfy the specific needs and sensitivities of the recipient population. This leads to a third argument about technology, namely technology is culturally constructed.

With regards to *technology as embedded in social, cultural and economic relations,* the aim is to appreciate the societal dynamics of technology. As noted earlier, technology is not a neutral or naturally-occurring phenomenon; it is rooted in human knowledge and action. It influences, and is influenced by, social relations. As Wilson and Heeks (2004: 406) note, "when technology is transferred from one society to another, it reflects the 'social values, institutional forms and culture' of the transferring party". Thus, a new or imported technology is likely to change or distort existing modes of social relations.

> One must always take account of social, cultural and economic contexts in which it [technology] is appropriate. And these contexts vary enormously, whether at 'macro' level, that is between countries and regions, or at a 'micro' level, say between rural and urban parts of the same country, or even between two cities or villages (*ibid).*

The foregoing has given rise to a more constructive view of technology: "one can never exert total control over technology, but that it can be managed or steered while recognising it embeddedness in other relations. This view is favoured by scholars of

interdependency paradigm which sees development as occurring in the context of macro inter-relations between different states in the international community as well as micro inter-relations within communities." (*ibid*)

Coping with a wired world?

The mixed challenges and benefits of technology are discernible in every-day life in the developing world: homes, hospitals, schools, marketplace, village squares and so on. The present Volume of *Information, Society & Justice* brings together contributions that focus on this subject matter. Some contributions examine the macro-dimensions of information technology (e.g. Ezema on globalisation and cultural imperialism in Africa; and Lawrence and Tar on the barriers to e-commerce in the developing world). Others deal with institutional dimension (e.g. Salawu on the challenges of creating local contents). One article deals with a mixture of macro- and micro-dimensions of information technology (Al-Suqri, Al-Kindi and Al-Sarmi on global economic crisis and the role of information professionals). The book review section contains critical reviews of texts dealing with the context of this Volume (Bapir review of Clapham's book on the "third world"; and Orsolya's reviews a text on the commodification of information).

 In his contribution *globalisation, information revolution and cultural imperialism in Africa,* Ezema notes that though globalisation has brought a lot of changes which are impacting dramatically on the entire world: "the digital divide existing between developing world and developed countries places Africa in disadvantaged position in the globalisation process leading to cultural imperialism." Ezema traces the position of Africa in current global information order, and proves that African countries are inferior partners in global information hierarchy. He further notes that the so-called information revolution has further compounded structural crises in Africa: poverty, illiteracy, hunger and unemployment. The situation has also perpetuated Africa's aid-receiving status in the world. Ezenma recall statistics, for instance, with regards to global telephone access to reveal that Africa has a long way to go in the information technology, and that unless stakeholders wake up to reverse this trend the continent will continue to be exploited in the global market place.

In their contribution on *barriers to e-commerce in the developing world* Lawrence and Tar argue that electronic commerce (EC) has the potential to improve efficiency and productivity and, therefore, has received significant attention in many countries. However, they further argue that there are several factors militating against the adoption of ecommerce in developing countries: "the absence of adequate basic infrastructural, socio-economic and the lack of government national ICT strategies have created a significant barrier in the adoption and growth of e-commerce in developing countries." Thus, they posit that in order to understand the adoption and diffusion of ecommerce in developing countries, cultural issues need to be considered. In a related paper titled *the strategic business values of internet for SMEs,* Lawrence notes that in an increasingly global world, both information and information technology are of great significance to organization of all sizes. Businesses both large and small need information to succeed in today's rapidly changing environment, they need to be able to process data and use information effectively when conducting their day-to-day operations. Lawrence argues that SMEs stand to benefit significantly from the opportunities that Internet can offer to businesses because Internet is widely seen as critical for the competitiveness of SMEs in the emerging global market.

In their contribution, *the role of information professionals in global economic crisis,* Al-Suqri and

his colleagues argue that improved availability and communication of good information could play an important role in averting global economic crisis. Drawing on a range of existing sources, their paper considers the impact of information failure and the role of information professionals in the current global economic crisis. Al-Suqri and his colleagues then examine how information professionals can contribute to economic recovery. They conclude that "unless information professionals play a more proactive role in making good economic and financial information readily accessible, the risk of recurrent economic crises will be increased."

In his critical reflections on *the creation of institutional repositories with local contents* Salawu notes that a major impact of globalization and emerging information society is the urge to generate local content for local and global consumption. This, he argues, is of immense benefit for developing countries. He views local content as resources that are relevant and sensitive to the needs of local service users. He notes that Library as an indispensable agent in national development has a key role to play in generating local content through provision of relevant information. In the context of Nigeria, he argues that the onus rests on local institutional and public librarians to generate such local content to meet local and global information needs. The paper discusses issues in the creation of institutional repositories with local content from library perspective, focusing more on ways to enhance creation of local content, inherent challenges and suggestions on the way forward for Nigerian Libraries.

In the review section, the first contribution by Orsolya assesses Herbert Schiller's 'Information Inequality' (1996) with regards to "commodificadtion of information and class inequality in the today's world". In reviewing Schiller's view, Orsolya notes

> information can be treated either as a social good or as a privately produced commodity...As a social good, information is essential to the functioning and development of a healthy democracy. It facilitates the meaningful participation of all citizens in government and it also enables decision-makers to allocate resources in an egalitarian and rational manner so as to maximise the wellbeing of society as a whole

Nevertheless, Orsolya further notes that "although Schiller's concerns regarding the commodification of information and class inequality are very much relevant today, his vision for the future so far has played out with a twist." This is because "dissenting citizens embraced the tools sold by corporations to create and find information outside corporate control and to effect change. It is not clear yet, but unlikely, that this change is the 'next climactic human advance' as Schiller had hoped."

Finally, in a review of Christopher Clapham's *Third World Politics: an Introduction* Bapir notes that the content and arguments of the book reflects a given historical context – such as the era of modernisation discussed above. He notes that Clapham wrote the book in the Cold War period. In this era, the developing world was distinguished by their status as proxies superpower politics. Bapir argues that the nature of third politics was influenced heavily by superpower rivalry and ideological clashes between the Western capitalist and Eastern socialist blocs. Third world countries, he notes, were held captive by this politics and not much was achieved in terms of development and industrialisation.

Conclusion

This paper discusses the challenges of technology (IT in particular) in an apparently "wired world". It is argued that technologies are culturally-constructed and carry the risk of imposing the moods and values of certain cultures to others, namely the culture of those who invent and appropriate versus those at the receiving end of technology. Much as technology is not neutral, it is not natural. It is a man-made phenomenon susceptible to abuse and manipulation. The paper reviews three generic viewpoints about technology and development (technology as solution; technology as problem; and technology as embedded in social, cultural and economic relations). In each perspective, the dangers as well as benefits of technology are noted.

The paper also reviews contributions to the present Volume of *Information, Society & Justice* (Vol. 3.1). These contributions make nuanced analysis of the challenges of information technology both in macro- and micro- contexts. Overall, this paper and contributions to this volume note the challenges of striking balance between two extremes of technology: their apparent benefits on the one hand, and the difficulties/challenges associated with them on the other.

Notes

1. By conventional actors is meant familiar "traditional" players in national and global politics – such as states, inter-governmental organizations, pressure groups, political parties, and statesmen. By clandestine actors is meant non-conventional actors such as terrorist organizations. It appears that both set of actors have equal or near equal access to information technology.

2. A good example is nuclear technology which can be used for either civil or military purposes.

References

Al-Suqri, M. N., Al-Kindi, S. S. & Al-Sarmi, A. H. (2010) "The role of information professionals in global economic crisis" *Information, Society & Justice*, Vol. 3 No 1:51-57.

Anderson, M. B. (1985) "Technology transfer: implications for women" in Overhold, C, Anderson, M. B., Cloud, K. And Austin, J. E. (Eds.) *Gender Roles in Development Projects: a Casebook* West Hartfort CT: Kumarian Press

Bapir, M. A. (2010) Review of Christopher Clapham, *Third World Politics: An Introduction,* London: Routledge, *Information, Society & Justice*, Vol 3 No 1: 77-80.

Berger, M. (ed.) (1997) "After the Third World' special issue of *Third World Quarterly* 25(1).

Clapham, Christopher (1985) *Third World Politics* Madison: University of Wisconsin Press. (Chapter 1: pp 1-11).

Daniel, Elizabeth, Wildon, Hugh and Myres, A.(2002), "Adoption of E-Commerce by SMEs in the UK Towards a Stage Model", *International Small Business Journal,* Vo.l 20(3): 253-270

Efendioglu, A.M., Yip, V.F., Murray, W.L., (2004), *E-Commerce in developing countries: issues and influences,* San Francisco: University of San Francisco Press.

Eurostat (2004). *E-commerce and the Internet in European Businesses (2002). Detailed tables.* Brussels, Eurostat. See *europa.eu.int/comm/enterprise/ict/studies/entr-ict-2002.pdf.*

Ezema, Ifeanyi J. (2010) "Globalisation, information revolution and cultural imperialism in Africa" *Information, Society & Justice,* Vol 3 No 1: 11-22.

Humphrey J, Mansell R, Paré D and Schmitz H (2004). "E-commerce for Developing Countries: Expectations and Reality" *IDS Bulletin,* 35(1): 31–39.

Karakaya, F., and Khalil, O., (2004), "Determinants of Internet Adoption in Small and Medium-sized Enterprises", *International Journal of Internet and Enterprise Management, Vol. 2, No. 4*

Kole, Ellen (2000a) *Cyber democracy: a condition not an outcome* http://www.x4all.nl-ekde/public/toolart.hmtl

Kole, Ellen. (2000b) *African women speak on the Internet: research report of an electronic survey of African women.* http://www.x54all.nl/-ekole.html

Kraemer, K.L., Dedrick, J. and Dunkle, D. (2002) E-Commerce in the United States: Leader or One of the Pack? Global B Commerce Survey, Report of Results for the United States, Center for Research on Information Technology and Organisations, University of California, Irvine.

Kurnia, S., (2006), *E-Commerce Adoption in Developing Countries: an Indonesian Study,* San Diego International Systems Conference, San Diego State University

Kurnia, S. and Johnston, R.B. "Adoption of Efficient Consumer Response: Key Issues and Challenges in Australia", *Supply Chain Management: An International Journal,* (8:2), 2003, pp 251-262.
1.

Kurnia, S. and Johnston, R.B. "The Issue of Mutuality in ECR Adoption: A Case Study". *The Eighth European Conference on Information Systems,* 2000, Vienna, Austria. pp. 1009-1016.

Kurnia, S. and Johnston, R.B. "Adoption of Efficient Consumer Response: Key Issues and Challenges in Australia". Supply Chain Management: An International Journal, (8: 2), 2003, pp 251-262.

Lawrence, J. E. (2010) "The strategic business value of internet usage in Small to Medium-sized Enterprises" *Information, Society & Justice,* Vol. 3 No 1: 37-50.

Lawrence, J.E., (2002), *The Use of Internet in Small to Medium-Sized Enterprises,* PhD thesis, University of Salford, UK.

Lawrence, J. E. & Tar, U. A. (2010) "Barriers to ecommerce in developing countries" *Information, Society & Justice,* Vol. 3 No 1: 23-35.

Mann, C. L., (2000), *Electronic Commerce in Developing Countries: Issues for Domestic Policy and WTO Negotiations*, Institute for International Economics

Mann, C.L. (2000a), "Electronic Commerce in Developing Countries. Issues for Domestic Policy and WTO Negotiations", *Institute for International Economics Working Paper*, No. 2000-03, Washington, D.C.www.iie.com/CATALOG/WP/2000/00-3.pdf (last accessed April 4, 2001).

Mansell, Robin. (2001) "Digital opportunities and the missing link for developing countries"
Oxford Review of Economic Policy 17 (2):282-295.

Orsolya, F. (2010) "How relevant are Schiller's concerns about commodification of information and class inequality in today's world?" *Information, Society & Justice*, Vol 3 No 1: 67-73

Oxley, J. E., and Yeung, B., (2001), *E-Commerce Readiness: Institutional Environment and International Competitiveness,* Journal of International Business Studies, Vol. 32, No. 4, pp. 705-723

Oyeleran-Oyeyinka, B and Lal, K (2004) "Sectoral pattern of e-business adoption in developing countries" United Nations University Institute for New Technologies Discussion Paper Series No 2004-7.

Payne, A. (2005) *The Global Politics of Unequal Development* Basingstoke: Palgrave*.*

Potter, David (2004) 'Democratisation, "good governance" and development' in Allen, Tim and Alan Thomas (eds.) *Poverty and Development into the 21st Century* Milton Kaynes: Open University Press (Chapter 17: pp. 365-82).

Salawu, B. A. (2010) "Issues and challenges in the creation of institutional repositories with local content: critical reflections" *Information, Society & Justice*, Vol. 3 No 1: 59-68.

Smith, B. C. (2003) *Understanding Third World Politics* 2nd Edition Basingstoke: Palgrave*.*

Tornquist, Olle (2001) *Politics and Development: a Critical Introduction* Thousand Oak, Calif.: Sage (Chapter 8 & 9:70-85).

Travica, B., (2002). "Diffusion of electronic commerce in developing countries: The case of Costa Rica." Journal of Global Information Technology Management, 5(1), 4-24.

Turban, T., King, D., McKay, J., Lee, J., and Viehland, D., (2008), *Electronic commerce 2008, a managerial perspective*, Pearson Prentice Hall, New Jersey

Vatanasakdakul, S., Tibben, W., Cooper, J., (2004), *What Prevent B2B eCommerce Adoption In Developing Countries?: A Socio-Cultural Perspective*, 17th Bled eCommerce Conference eGlobal Bled,
Slovenia

Wilson, G and Heeks, R. (2004) "Technology, poverty and development" in Allen, Tim

and Alan Thomas (eds.) *Poverty and Development into the 21ˢᵗ Century* Milton Kaynes: Open University Press (Chapter 19).