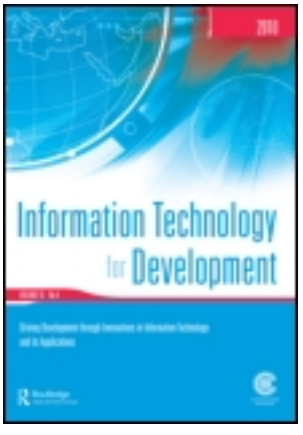

Information Technology for Development

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/titd20

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Version of record first published: 24 Jan 2011.

To cite this article: Elaine Byrne , Brian Nicholson & Fadi Salem (2011): Information communication technologies and the millennium development goals, Information Technology for Development, 17:1, 1-3

To link to this article: http://dx.doi.org/10.1080/02681102.2010.513825

Information Technology for Development
Vol. 17, No. 1, January 2011, 1–3

Routledge
Taylor & Francis Group

EDITORIAL INTRODUCTION TO THE SPECIAL ISSUE

Information communication technologies and the millennium development goals

Elaine Byrne, Brian Nicholson and Fadi Salem

This special issue of the *Journal of Information Technology for Development* focuses on specific cases of how information and communication technologies (ICTs) can facilitate the attainment of the millennium development goals (MDGs). As a result, perhaps we are subject to the criticism of jumping on the MDG bandwagon – "the juggernaut of all bandwagons" (Saith, 2006). However, consideration of how ICT can serve developmental objectives and goals opens crucial debates. For instance, there is realistic skepticism on whether scarce resources should be used on ICT expenditure when there are so many competing priorities and the infrastructure for the effective and efficient utilization of ICT is often substandard (Thompson & Walsham, 2010).

So why a special issue on the MDGs? We are nearly two-thirds of the way to the 2015 deadline of achieving the MDGs and the attainment of these goals remains elusive or "off-track." ICTs have potential to contribute to meeting the MDGs as part of the MDGs themselves (Goal 8, Target 18) and/or impacting the achievement of other MDGs. ICTs can be used to more effectively tackle the MDGs through improved monitoring and surveillance systems on progress toward the MDGs, improving economic growth and reducing poverty, and more efficient and effective provision of basic social services (UNDP, 2008).

However, the first full articulation of the MDGs (UN, 2000) was criticized for portraying a very narrow agenda for development. For example, MDG 1 can be critiqued for reducing poverty to those below the US$1 a day income poverty line rather than inability to meet basic needs (Saith, 2006). Relative poverty positions and structural inequalities are not addressed. Additionally, it can be argued that like the precedents to the MDGs, they are subject to the same criticism – the MDGs remain hegemonic ("one-size-fit-all"). They were imposed by the north and are "denying developing countries the very paths to development that industrialised countries used" (Heeks, 2005, p. 9). Additionally, the measurement of progress, or lack thereof, toward the targets imposes huge data requirements on developing countries, in addition to requiring some form of baseline to start with.

But, commitments to improving and assessing progress on human development are to be welcomed. The critiques above largely pertain to the reduction of the MDGs to these targets when assessing progress in development. To obtain a more accurate picture of the global developmental landscape necessitates an awareness of embedded structures, the influence of global and national economic, social and political powers and recognition that development is a global, not a developing country, issue.

The papers in this issue illustrate that a contextualized, multi-disciplinary and multi-leveled approach to MDG attainment is required. Achieving the MDGs is not just a matter of measurement of the targets, but recognizing and integrating the social and cultural dimensions of development into an assessment of progress and embracing the opportunities ICTs can offer. The socio-technical focus of all the papers interrogates the goal-oriented vision of the MDGs and the complexity of assessing development through the measurement of the targets for each of these goals. Deeper understanding of the institutional logics embedded in ICT and information

ISSN 0268-1102 print/ISSN 1554-0170 online

DOI: 10.1080/02681102.2010.513825
http://www.informaworld.com

systems (see papers by Bernardi & De Chiara, and Hayes & Rajão) and recognition of the contextual and political nature of strategies for the attainment of such goals (see Sæbø, Kossi, Titlestad, Tohouri, & Braa) are recommended in assessing progress toward the MDGs. Issues of measuring progress of the health-related MDGs and the political and structural nature of developing and implementing such systems are also raised (see Bernardi & De Chaira, and Sæbø et al.). The quantifiable nature of the goals adopted by countries for assessing ICTs contribution to development and the degree of self-determination of the means and the ends of one's own development within the MDG framework is also questioned (Kivunike, Ekenberg, Danielson, & Tusubira).

Four of the papers in this issue were selected from the 10th international conference of the International Federation for Information Processing (IFIP) 9.4 working group on Social Implications of Computers in Developing Countries (http://www.ifip.dsg.ae). The fifth paper is a View from Practice and was selected as part of the normal reviewing process for the journal.

The first paper, Niall Hayes and Raoni Rajão's article on *Competing institutional logics and sustainable development: the case of geographic information systems in Brazil's Amazon region*, addresses the paucity of literature which engages in the debate of ICT and environmental sustainability. Based on empirical data pertaining to the history of the governance of the Brazilian Amazon and the role of geographic information systems (GIS) in the region, they argue "that in order for the MDGs to be achieved what is required is a thorough understanding of the differing institutional logics that have surrounded the past and current use of GIS in the Amazon region." The empirical data illustrate neither the static nor predictable trajectory of institutional logics in GIS development in relation to the MDGs and the emergent and contested nature of the developed GIS and its implementation. Their analysis has important implications for our understanding of the possibilities of ICT for bringing about institutional change, and specifically the possibilities of the institutional logic of the seventh MDG. The concept of "interpretive flexibility and data" is applicable across all goals in terms of debate over data and the way in which it is interpreted and used. They conclude that "for ICT to contribute to the MDGs it is important to attend to the historical and contested institutional context and the potential for ICTs to be enacted in unanticipated ways."

The second article, by Roberta Bernardi and Francesca De Chiara, *ICTs and monitoring of MDGs: a case study of Kenya HIV/AIDS monitoring and evaluation in a donor multi-agency context*, also explores contested institutional logics. The case study explores the history of the restructuring of the information systems on HIV/AIDS according to different institutional logics and priorities. The objective of the paper is to develop a clearer understanding of these discrepancies and how they impact on the integration and decentralization of national monitoring and evaluation of the HIV/AIDS programs and their implementation by the multiple foreign donors and other major players. The lack of harmonization and alignment has caused verticalization and centralization of monitoring systems, with little local ownership of HIV/AIDS information reflecting a gap between international political discourses and their enactment at the country level. The authors call for more bottom-up and contextualized approaches for global policy to be reflected in local agendas and practices.

Continuing on the topic of the health-related MDGs and health information systems, the third article in the special issue is by Johan Ivar Sæbø, Edem Kwame Kossi, Ola Hodne Titlestad, Romain Rolland Tohouri and Jørn Braa on *Comparing strategies to integrate health information systems following a data warehouse approach in four countries*. The paper addresses the impact of inefficient and unreliable health information systems for the management and monitoring of health-sector capacity to address the MDGs. Four country cases of standardizing and integrating health data using a data warehouse approach are described. In all four countries (South Africa, Zanzibar, Sierra Leone and Botswana), there was fragmentation of health information in

different sub-systems run by different vertical health programs. Different approaches to integration were adopted, but a common factor was that integration was as much a task of aligning organizational and political actors as technical problem-solving. Technical solutions can assist in aligning the various political actors and enable integration, but these solutions need "to evolve within the changing context of a growing health information system in order to achieve the scale needed to address the MDGs with full force."

The fourth paper, by Florence Nameere Kivunike, Love Ekenberg, Mats Danielson and F.F. Tusubira, *Perceptions of the role of ICT on quality of life in rural communities in Uganda*, takes a broader look at development in terms of the quality of life in relation to ICT. Using Sen's capability approach, indicators of the quality of life were refined locally. This list includes three dimensions to the quality of life – social opportunities, economic facilities and political freedoms. How ICT could (i) potentially, and (ii) in reality, impact these local indicators of the quality of life was investigated. It was established that though perceptions of the social benefits from ICTs on the quality of life were high, actual impact was relatively low. Focussing on ICT without looking at the social, economic and political dimensions could lead to opportunities being lost and resources being underutilized.

The fifth paper is by Alexeis García Pérez on *Knowledge behind barriers: IT access as an enabler of Cuban development*, wherein García Pérez focuses on perceptions of 25 employees in the "knowledge-intensive sectors" in Cuba with respect to ICT, knowledge and the Cuban economy. The use of technologies is identified as an enabler of Cuban development and the paper highlights the external and internal factors affecting the use of IT for development in Cuba. The challenges go beyond access to ICT, and cover government regulations, the state of the economy, IT infrastructure and externally imposed barriers. This paper was reviewed through the regular review process and not for the special issue and, though not specifically related to the MDGs, it does echo the views above that there are social, economic and political dimensions to exploring the effect of ICT on development.

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