Information Technology for Development

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EDITORIAL

Globalization in development: do information and communication technologies really matter?

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Theories and practises of development have evolved since the 1950s when modernist theories were used to replicate the European model in Southern countries and Structuralist theories suggested that these countries needed to limit their interactions with the global economy to allow for domestic economic growth. This trend was followed by dependency theories in the 1960s and 1970s that focussed on government and aid policies to provide for the world's poorest people (Willis, 2011). However, Willis (2011) suggests that the global economic problems of the 1980s and the recognition that development theories had not been translated into practical success led theorists to stop and think about development. In particular, globalization is becoming a main factor affecting the incomes and living conditions of people. Castells (2004) writes about the rise of the fourth world brought about by disparities in incomes of people within the same country. He states that there is a polarization in the distribution of wealth at the global level, increasing income inequality within countries and a rise in poverty within most developed and developing countries. It appears that the greatest inequality is between urban and rural areas with the rural populations being worse off than their urban counterparts (Castells, 2004; Willis, 2011).

While a number of theories have been developed on the nature and impact of the process of globalization, there is agreement in that the increasing interconnectedness between people, businesses and regions affect the lives of people locally (Castells, 2000; Giddens, 2003; Held, McGrew, Goldblatt, & Perraton, 1999, Hirst & Thompson, 1996; Robertson, 1992; Scholte, 2000; Wallerstein, 1974). Castells (2000) is notable in his description of globalization to be fueled by information technology in what characterizes this current technological revolution is not the centrality of knowledge and information but the application of this knowledge and information to knowledge-generating and information-processing devices. Sen (2002) argues that the economic predicament of the poor across the world cannot be reversed by withholding from them the great advantages of contemporary technology, the well-established efficiency of international trade and exchange, and the social as well as economic merits of living in open rather than closed societies. Ajayi (2003) adds to this argument by stating that globalization offers new opportunities, including expanded markets and the acquisition of new technologies and ideas.

The use of information and communication technologies (ICTs) can enable development to take place through access to new markets, increased competitiveness, and access to knowledge and skill if applied to address local conditions and individual challenges. More recent studies by Qureshi, Kamal and Wolcott (2009), have illustrated how the most underserved populations have been able to take advantage of ICTs to access new markets, increase their competitiveness, and through administrative efficiencies achieve lower costs and higher returns. At the same time, those who are unable to have access to or use ICTs risk being excluded from the economic and social processes of globalization. In order to adequately study the effects of ICTs on global

development, research methods need to be developed that capture these processes and enable them to be studied. It appears that given the effects of globalization on development, the nation state may no longer be the main unit of analysis. Yet development is still seen as an economic process rooted in modernist theories (Willis, 2011). The World Bank, for example, uses gross national income *per capita* to divide the countries of the world into development categories. Non-economic dimensions of development have been captured through the Human Development Index developed by the United National Development program. The Gini coefficient is a measure of inequality which is often used to illustrate disparities in income and standards of living within countries. Yet, there are few methods available to assess the effects of ICTs on global development as they address the disparities in income and standard of living. The articles in this issue offer new perspectives that enable the effects of ICTs on development to be studied in a broader context. By taking into account the economic and social processes of globalization, they investigate the ways in which ICTs are adopted and assess the effects of this adoption on overcoming the inequalities within the countries investigated.

The first paper in this issue is entitled "Inter-organizational systems (IOS) adoption in the Arabian Gulf region: the case of the Bahraini grocery industry" and is authored by Mazen Ali and Sherah Kurnia. The authors state that many organizations have engaged in inter-organizational systems (IOS) to manage their business operations across the supply chain. Such systems are mainly based on business-to-business electronic commerce technologies, are seen to play a significant role in enabling organizations around the world to extend their supply chain and to engage in global trading efficiently and effectively across many geographical locations. They argue that the adoption rate of IOS in the Gulf region is very low and this creates significant challenges to do business with organizations around the world that make use of IOS. Because there is a limited understanding of the contextual issues related to the IOS adoption within the Arabian Gulf region, this study, guided by the process model of Kurnia and Johnston (2000), investigates IOS adoption by conducting a multiple case study with seven companies within the grocery industry of Bahrain. This study offers important implications for both academics and practitioners pursuing IOS in the Gulf region.

The second paper in this issue is by Richard Duncombe and is entitled, "Researching the impact of mobile phones for development: concepts, methods and lessons for practice." The author suggests that the use of mobile phones is an increasingly important part of development efforts particularly in low-income countries. He states that as investment in mobiles for development (m-development) is being led by the mobile phone industry together with donors and development partners across a wide range of development sectors and as the adoption of mobile phones increases, it becomes important to research and understand their impact and to assess to what extent the expansion of m-development is assisting broader development efforts. This paper provides guidance for conducting research on impact assessment for m-development by reviewing 18 published impact studies, and suggests four key building blocks for good practice in impact assessment. These building blocks encompass: the extent to which the studies address the needs of defined audiences or beneficiaries, the choice of types of impact to assess and units of assessment, the application of suitable conceptual frameworks, and the rigor of the methodology followed. The findings suggest that m-development impact assessment to date falls into three main categories: purely quantitative approaches rooted in information economics, and purely qualitative approaches rooted in social impact assessment. A further mixed method category provides cost-effective and timely findings, but with the result of diluting the rigor evident at the methodological poles. The paper identifies m-development impact research as a contested area, and by taking stock of experience thus far, seeks to raise the level of debate concerning the relative merit of alternative methodological and conceptual approaches.

Traci Carte, Ajantha Dharmasiri and Travis Perera are the authors of the third paper in this issue entitled "Building IT capabilities: learning by doing." The authors argue that as ICTs are ubiquitous in much of the developed world, with the growing interest in business process outsourcing, further deployment of these technologies in developing countries is a valuable economic development tool. Unfortunately, digital inequity, from inadequate information infrastructure, lack of IT skills, language barriers, and illiteracy often constrain ICT adoption and use in developing countries. In order to address this problem, the case study presented in this paper, focusses on an e-learning initiative within Sri Lanka. A key government ministry selected 150 of its employees for inclusion in a hybrid learning post-graduate diploma program in public administration. While this program does not focus on teaching information technology skills, its hybrid context provides the added benefit of developing technology skills among participants. The authors followed the participants of the program from start to finish. Using a combination of quantitative and qualitative data, they found that over the course of the program, participants became more aware of Internet availability and female participants displayed improvements in computer self-efficacy. These results suggest a hybrid learning program such as the one studied in this paper may indeed serve to simultaneously deliver content and improve IT skills and awareness.

There are two papers in this issue's View from Practice section. The first paper is entitled "Improving the browsing experience in a bandwidth limited environment through traffic management," and is authored by Augustine Odinma, Sergey Butakov and Evgeny Grakhov. The authors aim in this paper is to share their experiences with the establishment of a cost-effective policy for the utilization of limited infrastructure resources in developing nations. They report on a case study of the American University of Nigeria that provides an example of the successful management of limited Internet bandwidth among a large group of users. Data from an Internet proxy server were studied to determine how traffic was allocated to different categories of digital content. The results from this study show that only a tiny fraction of expensive bandwidth was used for resources directly related to education. To address bandwidth limitations, a restrictive policy was proposed as a solution to improve the user browsing experience while not compromising access to critical resources. Preliminary policy implementation trials restricting certain applications, such as downloading large files and prohibiting Peer-to-Peer traffic, indicated good results. The study also shows very positive financial implications of the proposed policy. These results show that limited investments in infrastructure management can reduce the running expenses of the project, which facilitates its sustainability.

The final paper in this issue is by Leyland Pitt and Richard Watson and is entitled "The case for cases: writing and teaching cases for the emerging economies." The authors of this practice paper have highlighted an important means of addressing the need to educate future leaders working in the global economy scenario. They suggest that teaching cases are important instructional mechanisms for educating business leaders. Cases must be relevant to the context in which the students will work so they can make informed judgments and defend their position to their peers. Their description of the case is made for developing a set of teaching cases based on business challenges in emerging economies to provide students in these regions the contextual realism necessary for a valuable classroom experience. They also provide guidance to novice case teachers and writers.

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