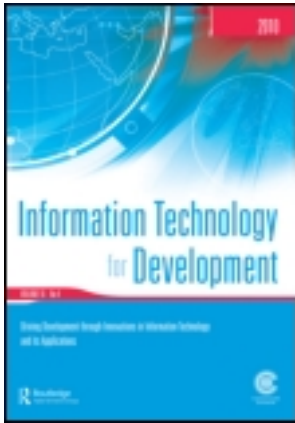


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EDITORIAL

Information technology for development in expanding capabilities

Sajda Qureshi
Editor-in-Chief

The concept of development continues to evolve as information and communication technologies (ICTs) are applied in innovative ways to support the needs of people living with very limited resources. While it appears that the implementation of ICT infrastructures in underserved communities and in less developed countries (LDCs) may not always lead to the benefits expected in terms of efficiency and cost effectiveness, there appear to be benefits in using ICTs to support the human capabilities. In their call for a more “strategic developmental focus” Thompson and Walsham (2010) suggest that the conception, development, implementation, and use of ICT functions as an explicit vehicle for furthering developmental aims. By this they mean that ICTs in themselves cannot be seen as an end to development efforts, but more as enabling sets of social behaviors. At the same time development agencies appear to view ICTs as an end to their efforts to alleviate poverty, provide healthcare and better government services. Brown and Grant (2010) state that although the extent to which the benefits of ICTs can be realized remains to be seen, it is this perceived capacity to provide broad, far-reaching and even revolutionary, socio-economic change that has brought ICT to the center of the development discourse. They identify a duality between research in ICT for development and ICT in developing countries in which contributions to development from researching ICTs in developing contexts are not often forthcoming. They argue that both these streams of research are being carried out in parallel with little or no overlap with each other (Brown & Grant, 2010).

One way of transcending the duality between ICT for development and ICT in developing countries research is to adopt a broader view of development. In his book, entitled *Development as Freedom*, Amartya Sen argues that the ability to earn a living in order to lead a life as a person values it is the main purpose of development. Development in terms of Sen’s (1999) argument may be seen as a way of conceptualizing the broader quality of life that people lead. The means of achieving the end to a better quality of life lies in the freedoms that people have in order to do so. In this regard, ICT’s appear to have provided people with the means by which they may take actions and make decisions that lead them towards a better quality of life. This is particularly important when assessing the effects of ICT use on those people with very limited resources and lack of opportunities to earn an income and thus lead a life that they value. The process of expanding the real freedoms in which people can take actions and decisions to lead better lives and the opportunities that they are able to take to improve their personal and social circumstances, constitute development. The process of providing these freedoms is the primary means to development and the end to development is the achievement of these freedoms as people improve their lives by avoiding starvation, gaining literacy and political participation.

It appears that the role of ICTs in enabling the process of personal freedoms to take place is in the ways the technologies can be used by people to take actions and decisions that allow them to lead better lives. Well documented examples, including the first paper by Islam and Grönlund in this issue, are of poor farmers who use mobile phones to access needed information and

resources so that they can make better decisions about in which markets to sell their produce and which seeds to plant. The resulting increases in income give them the opportunity to improve their lives by obtaining healthcare, literacy and/or better living conditions. Sen argues that substantive freedoms involve the *capability* to choose a life one has reason to value. He states that if an individual were to have real opportunities to pursue her objectives, then her personal characteristics that govern her ability to promote her ends would have to be taken into account. This means that an individual who is adequately nourished, free from avoidable disease and able to take part in community life would have a different set of capabilities than an individual who does not have these. Such inequalities within a country or even a community make it difficult to evaluate the effects of specific ICT implementations on development. Rather a broader approach that considers the capabilities offered through the use of ICTs can enable a more meaningful understanding of development to be gained. In her analysis of Sen's capability approach, Zheng (2009) argues that by taking the capability approach for studying how ICTs contribute to development, we can investigate the different factors, or *functionings* that constitute an individual's capabilities that affect her freedom to achieve. In this way ICTs should be viewed as a means to achieve an expansion of human capabilities to lead a life as they value.

The first paper in this issue, entitled "Bangladesh calling: farmers' technology use practices as a driver for development", co-authored by Sirajul Islam and Åke Grönlund, utilizes Sen's perspective that human capability is the basic driver for development. The authors argue that enabling farmers in developing countries to be more informed about market opportunities is considered an important step toward development of the agricultural sector and increasing individual farmers' income. The question they investigate is, if mobile phones are a useful technology for delivering such information, are farmers ready to use them? This paper investigates, by means of a survey ($n = 420$) to farmers in rural Bangladesh, what factors affect mobile phone ownership and use and what professional information is asked for. The authors found that access was very high, to a large extent through community use; even the very poor have access. Attitudes towards the use of the phones were positive and they were used for professional information services. The authors found that the human capacity for development through the use of the mobile technology enables better livelihoods to be achieved. They suggest that mobile services be adapted to the rural usage patterns and social context.

With respect to the inequalities being addressed in development, women have been one of the largest disadvantaged groups. This Journal has reported that ICTs can be used to enable women to achieve the livelihoods that they value by providing them with the economic and social opportunities to do so (D'Mello, 2006; Gillard et al., 2008; Elnaggar, 2008; Molony, 2009). The second paper, by Ashima Goyal, entitled "Developing women: why technology can help" continues investigating the ways in which ICTs provide the means by which women may take opportunities that would otherwise not be available to them. Goyal argues that initial technological developments did not improve women's ability to earn a living, and their bargaining power in relation to men actually decreased. Yet the technology is uniquely suited to enabling women to acquire vital economic capabilities and functionings. In order to investigate women's economic capabilities, her paper introduces a concept of household production technology that shows why the Internet and communication technology have the potential to increase the equity and efficiency of female participation in the labor force. Since inputs of female labor are required at short intervals in the production of the household good, female labor supply and earnings in the production of external goods fall below those of males. Household consumption at a point in time is maximized, but loss of potential learning-by-doing leads to dynamic inefficiencies, which power relations, bargaining, perceptions and self-perceived limitations reinforce. Her analysis found that ICT helps restore flexibility in female external labor supply since it facilitates distance work, flexi-time and location activity, making it easier to

match skills to jobs and to maintain and upgrade skills. But social structures and perceptions require intervention to become supportive. She concludes that ICT has the potential to contribute to overall development for poorer women in less-developed regions of the world with appropriate policy.

The third paper in this issue is entitled “Measuring impacts of e-government support in least developed countries: a case study of the vehicle registration service in Bhutan” and authored by Mayumi Miyata. The author argues that despite the large amount investments in eGovernment projects, there is little assessment of the impact of these projects while there is evidence to suggest that a large number of these projects have been reported to have failed. The author suggests that e-government initiatives are increasingly mainstreamed in the development agenda, as means through which developing countries can achieve development objectives faster and for less cost. However, the author argues that little research has been carried out on the impact of such initiatives in the developing world, especially the least developed countries, and little attention has been placed on cost aspects. This research studies one such initiative, the computerization of vehicle registration, in one such country, Bhutan. After assessing the impact of this system on both efficiency and governance, it finds that improvements in governance and quality aspects greatly outweigh cost-aspects. Using an activity-based costing method for internal costs, and assessing quality aspects through staff interviews and customer surveys, significant improvements were found in lead time and adherence to rules felt by citizen users. While little benefit was found in terms of cost reduction, this study found that the technology has the potential to reduce corruption and increase accountability.

The “View from Practice” paper in this issue, co-authored by Md. Mahfuz Ashraf and Bushra Tahseen Malik, is entitled “*Gonokendra* model: a response to ‘information poverty’ in rural areas of Bangladesh.” It appears that information and communication technologies (ICT) can lead to development in developing countries if, the authors suggest, that the effects of ICT interventions from the perspective of the participants at the local level are understood and addressed. The main focus of the interventions in this paper is in understanding the impact of the technology in terms of operational and financial sustainability at the recipient level. This paper reports on a project that introduced community-based village libraries known as “Gonokendra” by the Bangladesh Rural Advancement Committee’s (BRAC) Continuing Education program (CEP) in the rural areas of Bangladesh. This initiative targets the female labor force in rural areas and populations that are socially isolated and deprived from actively participating in the labor force. The primary focus of this project is to provide access to information and disseminate it through multi-purpose community centers and related projects. Additional projects reported in this paper involve computer training, multi-media information dissemination, mobile libraries, computer aided learning and book rotation programs. This paper concludes by illustrating, through voices from the field, how the ICT interventions through participant focused projects enable marginalized populations develop their capabilities and become active participants in the economic and social systems in their communities.

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