



ROUND TABLE



Societal impacts of information and communications technology

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Inclusivity;
Challenges of system development;
Openness and security;
Assessment of projects

Abstract The promise of information and communications technology (ICT) to deliver change is attractive and draws practitioners to experiment and build. Academics and researchers too believe in such benefits but point to certain challenges: changing processes and people to adapt to a new technology, which is invariably an import from a Western nation; the conflicts arising from the changes introduced by ICT, with some groups benefitting over others; and ensuring that the social change that is desired is indeed achieved, while disrupting existing arrangements. The speakers in the panel highlight and provide examples of some of these challenges.

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Perspective note to round table

Challenges of ICT-led societal change: reconciling viewpoints

There is an implicit understanding in the popular discourse that information and communications technology (ICT) will deliver change and development for the betterment of our lives. The understanding is often contested when large projects such as the Aadhaar unique identification for all residents in India, or the use of robots in manufacturing, which is gaining ground rapidly, raise problematic issues of privacy and loss of jobs in the popular discourse. The arguments then

turn towards the negatives, the problems that information technology initiates rather than the solutions it provides.

The views of academics and practitioners often diverge along the above lines. Whereas practitioners, those creating and implementing massive ICT projects for potential benefits to society, and their own firms are optimistic and drive forward the change with a view to build, experiment, and then seek results, the academics are cautious. Literature in the Information Systems (IS) field and in the sub-field of Information and Communication Technologies for Development (ICT4D) sees the transformation inherently assumed, with regard to ICTs, as both complex and problematic. Information and communications technologies pose challenges with regard to design, implementation, and evaluation.

Almost invariably, the technology that is considered in a developing country is an import. The technology was most likely designed and built in either North America or Western

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Europe. It would, as such, address the needs of those developed societies and not necessarily the needs of developing societies. The design and functioning of the ICT artefact, which is largely immutable, remains a challenge for the location for which it is imported and for which it has to be implemented.

The first challenge is that of the imperative of change: people, processes, social conditions have to change to accept the priorities and methods of the technology. The technology may be modifiable, to a certain extent; however, for the most part the local implementers have to play “catch up”. The imperative is often to “leapfrog” or to “modernise” and accept, sometimes without questioning, the technology and the changes it is enforcing.

The second challenge arises when implementers are conscious of the social impacts that the technology can have, and take a cautious approach. Local concerns, local conditions, the ability of populations to “absorb” the change, and the acceptance of new phenomena are taken into consideration to implement the technology. The technology itself is carefully examined and selected to ensure that it is both suited to the local needs and is modifiable for such needs. The challenge in this approach is that power conflicts within the target population will cause some people to benefit from the changes, while others may be denied. Also, unintended consequences may cause certain negative effects (such as loss of privacy).

A third challenge is that of transformation or change in social, political, and economic conditions, which is both suitable and desirable for the nation (Avgerou, 2008). The ICT may enable or support this change; however, the main concern is to ensure that this change is effected. Social and political change often creates deep ruptures in existing conditions, some of which will require drastic modifications in social arrangements. For example, corruption is deeply embedded in many developing countries, and ICT-led change that threatens to displace or reduce corruption is often strongly opposed (De', 2007). Furthermore, giving voice to marginal communities with the use of ICT too gives rise to resistance and is often opposed (De & Singh, 2011).

Despite the above challenges, academics largely agree that ICT does indeed lead to development and change (Walsham & Sahay, 2006). This is accepted as conventional wisdom now, and many governments have set up massive initiatives to implement ICT infrastructure and enhance people's reach and access. Many multi-lateral agencies, such as the World Bank and ITU, measure and report on the extent of this access, thus creating a discourse that supports the virtuous view of ICT-led development.

In the current context (in 2016), nations around the world are facing the deep onslaught of ICTs. Cloud computing, internet-of-things, robotics, social media and analytics are making very deep changes in the manner in which work is done, how people interact, how governments exercise their administrative power, and how private industry grows and changes. These changes require careful thinking and understanding both to absorb their benefits and reject their costs and, what is more, require that the challenges mentioned above are addressed. However, the strong pace of change often does not leave time for reflection or understanding. There is an implicit imperative to play “catch up” and “get on with it”. It is in these situations that great care has to be exercised in addressing the opportunities and challenges that ICT poses.

The speakers in the panel provide examples of the issues that ICT-led development faces and underscore the challenges mentioned above. There remains much to understand and explore in this evolving field of study and research.

Societal impacts of ICT: opportunities and challenges—panel discussion

Anchor: Sourav Mukherji, IIM Bangalore.

Panellists:

Ashwin Mahesh, CEO, Mapunity
 Srinivas Padmanabhuni, VP, ACM India and AVP, Infosys Labs
 Chetan Patil, Founder & CEO, Rakya Technologies
 Pramod Varma, Chief Architect, UIDAI
 Amit Prakash, IIIT Bangalore, formerly Advisor—Social Sector Consulting, Deloitte India¹

Sourav Mukherji: Today, we have with us five industry practitioners to make their remarks and observations on the societal impacts of information and communications technology, the opportunities and challenges. We have Dr. Ashwin Mahesh, who is the founder and CEO of Mapunity, a social technology firm; Mr. Chetan Patil, who is the founder and CEO of Rakya Technologies, which was started with the social mission of saving lives by using technology in critical and time sensitive situations; Dr. Srinivas Padmanabhuni, VP ACM India and Associate Vice President of Infosys Labs; Dr. Pramod Varma, Chief Architect, Unique Identification Authority of India (UIDAI); and Mr. Amit Prakash, Advisor—Social Sector Consulting, Deloitte India.² I will invite each of the panellists to make their opening remarks followed by a question and answer session with the audience. First I would like to invite Dr. Ashwin Mahesh to make his opening remarks.

Ashwin Mahesh: There are a couple of things that I want to say in my opening remarks. One is that we need to be able to do things that we are doing in technology for society in a way that our efforts are directly focussed on the problems rather than our interpretation of the problems. In building technology solutions for many of our social problems, we have not adequately focussed on the nature of the problem. Historically, the solutions that have been built for public problem solving or tackling large challenges in society have failed to recognise the fundamental nature of the problem. We have created technology that is bought by a primary stakeholder and incidentally made available afterwards to other stakeholders. It would be very nice if technology actually evolved out of social norms in a way that it reflected the way people use that technology. But that is not happening in the technology for society and for public problem solving.

¹ The panel discussion was part of the IFIP 8.6: Grand Successes and Failures in IT conference held at the Indian Institute of Management Bangalore. This part of the article carries edited excerpts of the presentations made at the panel discussion. The views expressed by the panellists are personal and academic in nature and not necessarily the views of their organisations. The presentations of the panellists were made in an academic context in an academic institution.

² Prof. Amit Prakash, currently with IIIT Bangalore, was Advisor—Social Sector Consulting, Deloitte India at the time of this panel discussion.

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