EVALUATING THE DEVELOPMENTAL IMPACT OF E-GOVERNANCE INITIATIVES:
AN EXPLORATORY FRAMEWORK

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ABSTRACT
India is faced with a large number of challenges that are typical of developing countries. The Indian government has for the past 3 decades widely acknowledged that expanded use of ICT in the public sector can offer important benefits such as improved planning and monitoring mechanisms, cost savings through rationalisation, and more effective administration and delivery of certain public services. Today, wide ranges of e-governance projects are being implemented in different parts of the country including projects aimed at reaching areas and people that had traditionally not been connected to the outside world.

This paper uses Sen’s notion of capabilities as an evaluative space for e-governance assessment. Such an emphasis demands a change in the way e-governance is assessed. The capabilities framework allows us to focus on the developmental impact of such projects. We base our evaluation on the FRIENDS and AKSHAYA e-governance projects in the South Indian state of Kerala.

1. INTRODUCTION
The reform of government administration and the provision of improved services to citizens has long been acknowledged as a major criterion for development and today’s drive towards e-governance in many parts of the world can be considered part of this wider developmental goal. Although the term e-governance is primarily used to refer to the usage of IT to improve administrative efficiency, this is argued to produce other effects that would give rise to increased transparency and accountability of government processes, reflect on the relationship between government and citizens and help build new spaces for citizens to participate in their overall development. (Gasco, 2003).

Like many other developing countries, India has taken great strides in promoting e-governance applications in recent years. The Indian experience in e-governance can broadly speaking be divided into 2 main phases. The first from the late 1960s/early 1970s to the late 1990s, and the second from the late 1990s onwards. In the first phase, efforts to develop e-governance were concentrated on the use of IT for in-house government applications with a principal focus on central government requirements such as defence, research, economic monitoring and planning, and certain data intensive functions related to elections, the conducting of the national census, and tax administration (GOI, 1985). During this first phase, the introduction of IT in the public sector did not result in automation of many key departmental activities. In the second phase, the implementation of the national IT Task Force and State Government IT policies symbolised a paradigm shift in e-governance policies towards using IT for a wider range of sectoral applications reaching out to a large number of people in rural as well as urban areas. Moreover, there has been a movement towards a greater input of NGOs and private sector organizations in providing services to the public. These projects have been influenced by the increasing focus of international agencies such as DfID, G-8, the UNDP and the World Bank under the banner of ‘E-governance for Development’.

The Government of India has set up the Ministry of Information Technology that works with the Department of Electronics to achieve various e-governance objectives with a
pledge that at least 25% of government services will be delivered electronically by 2005 (GOI, 2000). Today in India, many different types of e-governance projects are being implemented in parallel as displayed on the website of the World Bank funded E-governance Centre located at the Indian Institute of Management, Ahmedabad in Gujarat state (Centre for Electronic Governance, 2001). Some projects described on the website aim to introduce IT automation in individual government departments. Some aim to improve transparency and accountability within government by introducing electronic file handling and public grievance systems. Others specifically aim to enhance the delivery of government services through information technology for a range of high volume routine transactions such as the payment of bills and tax dues to government. E-governance initiatives are also being introduced to help people escape poverty by providing them with vital information on market prices and by helping them to make a living through entrepreneurial activity centred around ICTs.

To date, the vast majority of e-governance evaluation guidelines have tended to focus on the supply-side benefits of ICT infrastructure and on the identification of constraints within the structure of institutions in developing countries. For example, Heeks (2001a,b) bases his analysis of preconditions needed at strategic and tactical levels for e-governance initiatives in developing countries on ‘networked readiness’ criteria. These criteria originally formulated at the Harvard Centre for International Development define a framework of 5 interrelated categories with 19 subtopics where a grading of each subtopic into one of 4 stages provides an indicator of each country’s eReadiness in terms of access to ICT infrastructure and in terms of the socio-economic and political institutions which exist to support access and usage of the technology (Kirkman, 2002). Unnithan’s (2002) evaluation of e-governance initiatives in South India focuses on the extent of network coverage and establishment of ICT infrastructure.

A small group of studies have paid attention not only to the supply of ICT infrastructure but also to demand-side considerations. For example, IDRC telecentre evaluation considers the extent to which projects actually benefit the community (Hudson, 1999; Harris, 1999). The evaluation approach adopted is context-specific and IDRC studies have revealed that there is a significant difference in the measurement of actual benefit between communities in Asia and Latin America. Other studies have discussed the impact of e-governance projects on administrative reform and in terms of changes in trust relations between the government and citizens in the context of India (Madon, 2003).

However, to date, there has been little serious analysis of these initiatives in terms of their long-term developmental impact. Despite the fact that economic growth in India since the 1980s has been one of the fastest in the world and social indicators have steadily improved, India remains faced with a large number of challenges that are typical of developing countries. For the majority of people in India, clean water, sufficient power supply, earning a daily wage as labourers, providing basics for the family, and decent health services are priorities (Castro & Chopra, 2000; Jayal & Pai, 2001).

In this paper, we argue that a more focused approach is needed to ensure that citizens derive true benefits from such investments. A host of factors relating to the ability of individuals and communities within developing countries to avail themselves of e-governance services have hitherto been neglected. These factors depend upon resources, skill-levels, values, beliefs and motivations of a range of actors involved in the implementation of the projects including institutions of local government (such as panchayats), civil society organizations (ranging from international NGOs to cooperatives and civic associations), and private corporations. Such a need has been recognised from recent evaluations of projects in which issues of long-term impact on human development have been raised (Kanungo, 2002; Harris et al., 2002).
Based on our observation that there has been a gap in the study of the impact of e-governance initiatives on the lives of people in developing countries, this paper proposes a framework for evaluating the impact of e-governance projects based on Sen’s Capabilities Approach to human development. Following a brief discussion on our choice of methodology, we describe three e-governance initiatives in the South Indian state of Kerala. In the analysis section, we draw on our framework to provide illustrations and raise further questions for research on the developmental impact of these initiatives.

2. A Framework to Study the Developmental Impact of E-Governance Projects

The links between ICT and development have increasingly been articulated by international agencies in terms of the digital divide raising alarm bells with the concern that developing countries are being deprived of the opportunities for economic growth and social development enjoyed by advanced economies because of scarcity of ICT. As a consequence, many high profile initiatives have been undertaken to create awareness of ICT benefits, raise investment levels and promote ICT policy such as the G-8 DOT Force initiatives and the recent UN World Summit for the Information Society (WSIS). An assumption underlying this discourse is that technology and human development are mutually reinforcing (Avgerou, 2003) and that the market is the mechanism through which ICT is associated with economic development. Another key assumption from the modernisation literature is that deficiency in knowledge is partly responsible for underdevelopment. This argument derives from modernist development communication literature of the 1960s according to which the communication of scientific and technical knowledge from the developed world to developing countries would result in economic growth. This argument reappears in the conventional development discourse of international agencies, for example in the World Bank ‘Knowledge for Development’ report (World Bank, 1999), and more recently in the Bank’s Global Development Gateway portal.

On the other hand, a body of literature argues that the ‘ICT-for-development’ movement is the latest in a series of fads in the history of development thinking since the 1950s (Castells, 1998; Wade, 2002; Ciborra, 2002). Adopting a social deterministic stance, these writers see political, economic and social relations of capitalism fully inscribed into ICT initiatives and argue that they serve to recast development orthodoxy through the lens of modernisation theory. Wade (2002), for example, argues that in taking for granted that ‘bridging the digital divide’ is the central issue of development, literature from the World Bank and other international agencies has neglected details of cost, risks and benefit ratios in human development terms. Castells (1998) puts forward a troubled vision of the information society in which ‘old binaries are reworked’ around the ICT revolution such that the poor majority of the developing world becomes irrelevant to the new society. Essentially, these writers tend to recast the arguments of post-modern development theorists who draw on Foucoulidian discourse analysis to explore the way in which knowledge, power and action are linked in the work of development agencies and projects around the world (Ferguson, 1990; Escobar, 1995).

The argument put forward by these development studies scholars focus on providing institutionalist accounts of the constraints that institutions impose on IT innovation projects but neglect analysis of how and why these constraints change over time. According to recent work by development anthropologists (Nelson, 2002; Pigg, 2002), understanding the impact of development interventions entails a social constructivist account of how they unfold and are shaped by local players over time according to their priorities (Grillo & Stirrat, 1997; Gardner & Lewis, 2002). In the ICT field, Schech (2002) takes a social constructivist approach to study the developmental impact of ICT projects. A critical research question for
her is to explore the link between ICT and development looking at the extent to which ICT applications are amenable to further shaping at the implementation stage according to how people perceive their development.

Several important debates about human development have competed in the literature. A sophisticated theory of social welfare identifies the human good in terms of individual utility and preference. An influential literature within development economics gives emphasis to the concept of basic human needs (Little, 2003). An important alternative perspective of development pioneered by Amartya Sen takes the view that the ultimate good of development is to establish conditions under which persons can freely and fully develop their human capabilities. This is the “well-being” approach which Sen conceptualises under a framework of capabilities and functionings (Sen, 1984; 1993; 1999). The capabilities perspective has been described by many authors as more superior than the social welfare approach or the basic needs approach because it is primarily concerned with the overall development of a human person in terms of the achievement of his or her most important needs or functionings (Alkire, 2002; Corbridge, 2002; Little, 2003). Development here means having the opportunity to fully develop one’s life plan and to have the freedom and opportunity to carry out this plan.

This approach emphasises a human being as a free agent who realises his or her potential through choices. Human beings have a set of capabilities that can be actualised through normal processes of development such as through education, play, nutrition, family life, and so on. These capabilities are assumed to be present in all of us, but numerous obstacles can block their fulfilment – for example one’s capacity to lead a healthy life can be blocked by malnutrition. The central insight in the capabilities approach is that it is an inherently good thing that people are in a position to realise their human capabilities, and the establishment of the social, economic and political opportunities that are necessary for the realisation of these capabilities is the highest good to which social policy should be directed.

In this paper, we are interested in understanding how e-governance projects once implemented are shaped to achieve the fulfilment of human capabilities. The ability or freedom each human being has to lead the life they desire in material, social and spiritual terms can usefully be thought of as a continuum which can grow or recede incrementally rather than something discrete. Such research has been done more extensively by Sen and others (see for example reference to Nussbaum in Alkire, 2002) to conceptualise capabilities more rigorously. But for our purposes, this brief conceptualisation of the capabilities approach should be enough to facilitate the development of a framework for evaluating the development impact of two e-governance initiatives in India. The impetus to work with elements of Sen’s work to study e-governance in India has been spurred by recent writers that have tried to apply the capabilities approach for the study of ICT access in society raising the important question of whether new options, such as the ability to hold government accountable, the ability to pay bills, or the ability to generate income through e-governance applications should be added to the capability set of individuals, communities, organizations and states (Mansell, 2001; Garnham, 2000).

In this paper, we focus on evaluating the impact of e-governance projects in India from the perspective of capabilities. We particularly draw on Garnham’s (2000) analysis of contribution of communication media to enhancing users’ range of functionings. What the capabilities approach highlights is that in evaluating impact on human development, we need to take into account both the range of ICT options made available and the ability of people to make use of those options to achieve the relevant functionings. The range of ICT options made available cannot be justified simply in terms of what services people actually buy or what people seem to enjoy. From a capability perspective, any e-governance application may contribute to or enable quite different functionings. For example, one application may
provide information on health care and thus contribute to the functioning of health. In terms of the ability of people to make use of those options, we are interested in what users do with the opportunities presented to them through e-governance applications as well as the barriers which exist in the achievement of these functionings.

Our proposed framework goes beyond earlier e-governance evaluation criteria. We argue that there is a need to develop measures that reflect what people in practice can or cannot do with the range of e-governance applications offered and the benefits they do or do not derive from them, rather than measuring mere access, expenditure, the establishment of infrastructure and the imparting of ICT skills.

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Our focus is on understanding capabilities as a dynamic concept rather than as something static. This type of inquiry lends itself to a longitudinal study design which we describe in the next section.

3. METHODOLOGY
The research adopts a social constructivist lens taking the view that technological artefacts are interpretable and reshappable according to the demands of situated agents (Kallinikos, 2003). This constructivist approach reflects the tradition of studies that can broadly be classified as ‘interpretive case studies’. The author has selected a longitudinal research design in order to trace the dynamics and long-term implications of e-governance projects in India.

While the present research on e-governance in India started in 2001, the author has been working in India since 1988 on projects related to the introduction of information technology in the Indian government. The selection of the study site for the current research was influenced by the fact that the southern states in India have been first in launching e-governance activity. The state of Kerala, with its unique social indices, is our choice of location of study. Since 2001, the author has been involved in studying how ICT is being used to improve the delivery of routine services to citizens in urban Kerala and for promoting socio-economic development among rural Keralites.

Fieldwork has been organised at roughly six-month intervals over the past fifteen months. During the course of the research, we have conducted 56 interviews with government officials, local politicians, entrepreneurs, private sector employees and various citizens. For the interviews, we did not have a fixed schedule of questions, but a set of issues that we felt were important in understanding the extent to which people were able to achieve important functionings (i.e. things they valued in life). Over time, as we met people for the second and third time, there already existed a shared understanding between us and we could start the conversation where we had left off at the last meeting. All the interviews were conducted in face-to-face settings in the location of the interviewee’s workplace and none of the interviews were tape-recorded. The duration of the interviews ranged from a few minutes to an hour and we were invariably interrupted by phone calls and by the entry and exit of various other people coming in the office to meet the same person that we were interviewing. Although data collection was done mainly through semi-structured interviewing, additional data was obtained through participant observation, attendance of public meetings, study of press reports, study of websites, and various other secondary sources. The validity of our
qualitative exploratory methodology was ensured using the technique of triangulation by applying several means of data collection to the same person.

4. **E-GOVERNANCE THROUGH AKSHAYA IN KERALA**

Kerala’s unique development experience is reflected in its high levels of human development but low industrial development and employment. ICT was seen as an enabler of the region’s socio-economic development and a sound physical digital infrastructure was put in place. In 1999, the state government set up the IT Mission to introduce ICT in sectors of immediate benefit to citizens but soon recognised that a two-pronged strategy was needed. This consisted of a long term strategy to introduce modern management practices and information systems in the gram panchayats, and a medium term strategy to introduce high visibility ‘people-oriented’ projects. One such people-oriented project is called FRIENDS – an acronym for fast, reliable, instant, effective network for disbursement of services launched in June 2000 by the Kerala state IT Department and rolled out to all 14 districts by 2001. Each of the FRIENDS centres offers a one-stop IT-enabled payment counter where citizens can pay all their bills rather than having to personally visit individual department payment counters located in different parts of the city. In general, public support for the FRIENDS centres has been overwhelming amongst the middle class population of the state residing in district towns (Madon & Kiran, 2002). The project has been able to demonstrate to the common citizen that with appropriate training and skill upgrading, the very same government officers who once may have been considered arrogant and customer unfriendly, could be turned to play the exact opposite role.

A second more grassroots people-oriented project launched in October 2002 by the IT Mission of the Government of Kerala is AKSHAYA conceived originally to bridge the digital divide in Kerala and to act as a catalyst for socio-economic development. The project has established 610 multi-purpose community technology centres, each with 5-10 computers, in Malapurram district in North Kerala – a predominantly Muslim district with a high proportion of males working in Gulf countries. The project is conceived to promote local socio-economic development following the philosophy of an earlier Kerala model of development according to which a hospital, school and public distribution outlet would be located within a 2 km. distance from any household and serves approximately 1000 households in the locality.

Private entrepreneurs who are known and respected in the village community own the centres. In the first phase of AKSHAYA, from October 2002 until January 2004, the centres acted as hubs for promoting IT literacy amongst villagers. The programme was funded by the gram panchayat and enabled the entrepreneurs to recuperate 30% of their initial investment within the first three months of the project.

In the second phase of AKSHAYA, high-speed Internet connectivity for all centres was established in early 2004 and more specialised computer training and training in other areas including accounting and spoken English is being provided on a payment basis. AKSHAYA has recently seen the development of local content in key sectors such as agriculture, health, education. For example, educational CDs in local language are providing children with coaching in preparation for their school-leaving certificate. Another example of local content development relates to the recent resurgence of agriculture in Kerala with vanilla and other new generation crops. The AKSHAYA centres could be used to provide information about the cultivation for such crops in order to boost production.

Each AKSHAYA centre has begun participating in one of ten revenue and employment generating e-commerce activities identified by the IT Mission team and by the entrepreneurs such as providing data management services to government and corporates, providing insurance and financial services, data entry or marketing services. In order to
generate a market for such activity, entrepreneurs have needed to liaise with and work in close collaboration with local enterprises. In the future, AKSHAYA centres are intended to serve as e-transaction centres or local payment centres with connection to the district FRIENDS office and entrepreneurs will be able to collect payment for bills from households in their area. The centres are also intended to serve as front-end e-Government cells with various government-related applications delivered to citizens. For example, local panchayats have started to work on providing birth and death data to the AKSHAYA centres for digitisation enabling easy duplication of certificates or the usage of birth and death data for other purposes.

The involvement of local politicians every step along the way in supporting the project and the identification and training of suitable entrepreneurs has been the key focus over the first few months of Akshaya since it was launched. Over and above IT-related activities, the centres have created a space within which citizens can engage in as a social forum and to promote economic activities. For example, some centres have provided a meeting place for women to discuss basket making as a viable economic activity.

The basic services provided by the AKSHAYA centres are described below:

5. ANALYSIS
The previous section described the AKSHAYA e-governance application in Kerala, India. In this section, we provide examples of the type of analysis that can be conducted to evaluate the development impact of e-governance using the framework developed earlier in the paper. The main elements of the framework were as below:

- Range of ICT-generated applications
- What functionings are enabled
- What users do with the opportunity
- Barriers to achieving functionings

5.1 Range of ICT-generated Applications
The range of ICT-generated applications at the AKSHAYA centres visited so far during the course of this research has been increasing since the inception of the project. From October 2002 to December 2003, the centres were mainly used for conducting IT literacy programmes and for communication with family members in the Gulf. During the second phase of AKSHAYA, the range of applications has increased to include the provision of services such as bill payments and other government and bank transactions, the dissemination of
information on various key sectors such as health and education, and a linkage to vital
government services previously offered by the panchayat system. A range of e-commerce
activities have also been identified for AKSHAYA centres to engage in. In addition, by virtue
of its role in providing a range of ICT applications, the AKSHAYA centres have also recently
begun to serve as a local hub for promoting social cohesion and economic activity.

5.2 What Functionings are Enabled
A variety of functionings have been enabled through the establishment of the AKSHAYA
centres. With the FRIENDS project, citizens have a real opportunity to pay their bills without
hassle from middlemen. This functioning is now being extended through the AKSHAYA
centres. The push for having a single-window payment system like FRIENDS came from the
citizens themselves through resident association lobbies and other fora.

Another vital functioning has been that of having self-esteem in the workplace. In
particular, this has affected the Service Officers who have been charged with the
responsibility of interacting face-to-face with citizens in a seamless fashion across
departments. This has done much to improve the motivation of staff and the image of
government. From our survey of FRIENDS (Madon & Kiran, 2002), we found that citizen
attitudes towards government are also changing as a result of an increased sense of trust and
reciprocity developing between citizens and the state. With FRIENDS, for the first time, the
government is seen as being capable of providing a reasonable level of service without
corruption.

Enabling citizens to be confident or ‘empowered’ is one of the main outcomes from
the AKSHAYA project and applies to both the entrepreneurs who are able to become
employed and generate income, and to citizens. To quote one entrepreneur,

‘Before I had nothing to look forward to. Now I can go to my office’.

For this entrepreneur, the AKSHAYA centre has restored his sense of worth and
dignity in life. In terms of citizens, countless women interviewed were able to leave their
homes and frequent the centres with the consent of their families. Many of them, for cultural
reasons, were not allowed out of the house. However, as AKSHAYA was perceived as a
government project and therefore ‘safe’, it was possible for them to socialise and network
with each other.

5.3 What People do with the Opportunities
In the case of the FRIENDS payment system, citizens have relished the opportunity to
improve the quality of their lives in terms of bill payments. The fact that the centres are
frequented regularly and the erstwhile departmental counters are becoming less of an
alternative reflects how sustainable the FRIENDS centres have become. Although it remains
to be seen whether this will be the case with the AKSHAYA centres acting as e-transaction
points for bill collections, there are early indications that this is a popular application at sub-
district level too.

In terms of increased opportunities for work satisfaction amongst the Service Officers
in the FRIENDS counters, very few officers have left their positions and returned to their
parent departments signalling a whole-hearted acceptance of the opportunity to improve
government functioning and image. In the eyes of citizens, this image-building of
government gets reflected at the sub-district level and is manifest in the sheer confidence
placed on AKSHAYA which is branded as a ‘government’ project despite the fact that the
centres are wholly owned and managed by private entrepreneurs.
In terms of the vital functioning of being ‘empowered’, the majority of entrepreneurs interviewed have taken this opportunity to become self-starters less reliant on government for ideas and back up. Whereas when AKSHAYA first started, the IT Mission team would provide routine trouble-shooting to each centre, these visits have become less frequent and entrepreneurs have gradually built up confidence and networks to sustain their livelihoods and to generate local socio-economic activity.

What citizens, particularly women, do with the improved sense of empowerment they have achieved remains to be seen and clearly much more detailed ethnographic research is needed to evaluate the long-term developmental outcome of AKSHAYA. However, our research has shown that the AKSHAYA centres have already become an integral part in the lives of the people of Malappuram. These centres have created a space in which women are for the first time in their lives able to participate in social clubs and think about lucrative economic activities that they would like to start up.

5.4 Barriers to Achieving Functionings
A main barrier to achieving the functionings described above lies in the extent to which the AKSHAYA project meets the growing expectations of citizens. The great expectation among citizens is that the centres will promote e-governance activity. However, this will require a lot of back-end administrative reform to occur in parallel. To meet citizen expectations, then, will require cooperation from individual government departments.

A second potential barrier to achieving the functioning of generating income is the relation between the entrepreneurs who own the AKSHAYA centres and the local government administration – the panchayat bodies. In particular, with growing liaisons with enterprises large and small, including multinational corporations who are beginning to invest in Kerala and who may require data transaction services, there is a great deal of suspicion among panchayat members that project AKSHAYA is a private sector conspiracy. The management of this project therefore needs careful and sensitive management over the next year.

6. Theoretical Implications
We suggest that the use of elements from Sen’s capabilities approach enables us to go beyond earlier e-governance evaluation approaches in several ways. First, by focusing not only on supply-side criteria such as amount of expenditure, ICT infrastructure, access to technology, and skills and training. On the contrary, we suggest that there are a host of demand-side factors worthy of consideration if we want to evaluate the developmental impact of such projects. In particular, it has been difficult to measure social outcome in terms of the extent to which the needs and priorities of communities have been met.

Second, the ICT and Development discourse has drawn on social constructivist ideas with the argument that technological artefacts are interpretable and reshapable to the demands of situated agents but this discourse has not yet been extended to e-governance evaluation in the development context. This is surprising since governance is often perceived as a main route to development.

Third, by contributing to the literature on development evaluation. Different methodologies exist for evaluating projects with objectives that include poverty alleviation and empowerment such as cost-benefit analysis and social assessment techniques. The former is mostly used for conventional economic objectives and the latter the range of human development objectives. Social assessment techniques such as Social Impact Analysis and Participatory Social Assessment aim to make investment choices in line with communities’ development priorities (Alkire, 2002). However, a problem with earlier approaches lies in their ability to access and hence respond to these priorities. Sen’s Capabilities Approach has

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recently been discussed in the development literature as a useful approach because of its focus on identifying valuable changes in functionings. In this paper, we have tried to relate this approach to a discussion of development projects with ICT components.

7. POLICY IMPLICATIONS
No analysis of the developmental impact of e-governance initiatives would be complete without understanding changes at the level of policy discourse. If a key functioning such as holding government accountable depends on relational capabilities like the opportunity to live without being hassled by bribery, then policy must not only be directed towards the provision of e-governance infrastructure, but must also address itself to building such capability amongst individual and organizational end-users of the applications.

But there are policy implications for such an approach to assessing e-governance projects. The main difficulty is to consider the relative importance to attribute to different human functionings given scarce resources. Let’s take the example of underdevelopment of citizens of Malappuram to illustrate this point. Underdevelopment could be due to lack of income, lack of access for particular groups (say women), or due to other responsibilities that the women have. The difficulty at the policy level is to consider which of these constraints should be prioritised as the target for investment. Moreover, each of these different functionings may be more or less relevant to different socio-economic groupings within a locality. For example, freedom to pay bills may be more relevant for middle-income groups in Trivandrum than for low-income groupings in the city, while freedom to form social networks might be more important for women in Malappuram than for elderly people living in the area. Considerations such as these need to be taken into account at the policy level.

8. CONCLUSION
India is one of many developing countries currently launching major e-governance projects aiming to improve government processes, connect government to citizens and build interactions within civil society. However, in a developing country like India, it remains uncertain as to what contribution, if any, e-governance initiatives can make to overall development priorities.

Thinking about development in terms of capabilities allows us to get behind the superficial indices of access and usage that we so often use. While these indices may be important for the assessment of comparative advantage or deprivation, they are crude indicators of the real impact on the lives of ordinary people. If we follow this approach, then just as people have different capacities to translate a given food bundle into nutrition and also have different nutritional requirements to reach the same level of functioning, so in the field of ICT it is the real availability of opportunities and the real achievement of functionings that matters.

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