

The Quest for Intangibles: Understanding ICTs for Digital Inclusion Beyond Socio-Economic Impact

Ricardo Gomez
University of Washington, United States of America

Abstract

Abstract: Bringing together differences and overcoming inequities is one of the key challenges offered by the Information Society. In this paper we review early discussions of impact evaluation of ICT interventions for social and economic development, especially the experience of telecentres and other initiatives to offer public access to ICT. We problematize the attribution of ICT programs as causes of social and economic development, and at the same time we offer insight into understanding the intangible benefits of ICT for social inclusion. This approach is auspicious for researchers and practitioners who have been evaluating outcomes and impacts of ICT in development programs, and brings them closer to researchers and academics who have been exploring theoretical constructs about the new media landscape and social interactions made possible by technological innovations. A fruitful dialogue that offers new insight to the questions surrounding social inclusion via public access to ICT.

Keywords: ICT4D, impact, evaluation, development, digital inclusion

Ten Years of Search for Impact of ICT

Ten years ago a group of researchers from around the world came together for the first time to discuss the challenges of evaluating telecentres, convened by the International Development Research Centre (IDRC) in Canada. "Supposing public access centres to ICT make a difference, how can we tell?" was the underlying question. Workshop proceedings sponsored by IDRC, "Telecentre Evaluation: A Global Perspective," explored early inroads into the complexities of evaluating the impact of public access to ICT, and offered ten guiding principles for telecentre evaluation to "be useful, be financially responsible, build local capacity, and enable shared learning" (Gómez and Hunt 1999):

1. **Participatory:** All relevant stakeholders, including users and non-users, are involved in the evaluation process.
2. **Socially Inclusive:** Evaluations explicitly address, include and provide differentiated information about the experiences of sub-groups in a society (gender, age, culture, religion, etc.).
3. **Locally Grounded:** Evaluations are context sensitive.
4. **Public and Transparent:** Evaluation results are disseminated in ways that are useful to all relevant stakeholders. Evaluation processes are transparent.
5. **Methodologically Appropriate:** Choices of methods and tools are appropriate for the context and use, balancing replicability with usefulness, and methodological robustness with practicality.
6. **Enhances Sustainability:** Evaluations contribute to making telecentres more viable, to enhancing services and to making them more relevant.
7. **Capacity Building:** Lessons learned – both failures and successes – are documented during evaluations and are used to empower telecentre practitioners and users. Training is carried out where need is identified.

8. **Reflective of Shared Visions:** Evaluations are based on a common understanding of the telecentre mission, the evaluation process, the goal of the evaluation, and how results will be used.
9. **Strategically Oriented:** The evaluation strategy is incorporated into the project design and reflects project objectives. It is focused on clear questions that are important to stakeholders.
10. **Gender Sensitive** The evaluation strategy, process, methodology and tools are sensitive to the particular realities and needs of women. Women are consulted in the development and realization of evaluative processes.

Using these ten criteria, an analysis of telecentre evaluation experiences in Asia and Latin America, highlighted differences in approaches that seek to understand “the big picture”, i.e., the question of impact. This was looked at from the point of view of telecentre operators to strengthen their operation and remain viable (Gómez and Reilly 2002). In that report, which analyzes telecentre evaluations of IDRC projects, experiences in Latin America were found to be more concerned with strengthening telecentre operations than understanding social and economic impact, and experiences in Asia fell somewhere in between strengthening operations and understanding the big picture. These two paths have continued to evolve during the last few years, exploring the questions of social and economic impact of ICT, on one hand, and the questions of strengthening the operation and sustainability of telecentres (and other public access venues), on the other.

The creation of regional telecentre networks (most notably, *somos@telecentros* in Latin America in 2001), followed by a global telecentre support network (*telecentre.org*, in 2005), greatly advanced the understanding of the local needs and ways to strengthen the operations and sustainability of telecentres for community development around the world. The collective organization of community telecentres as a social movement continues to evolve, thanks to networking efforts of *telecentre.org* and others. At the same time, the types of initiatives and venues that are actively offering public access to ICT have gone well beyond community telecentres alone, to include national connectivity initiatives, cybercafés, and in some countries, public libraries; this expansion has sometimes been called a “second wave” of telecentres, or more broadly, of public access to ICT (Delgadillo, Gómez et al. 2002).

Over the past ten years, much anecdotal evidence has been collected about the success of these public access initiatives in communities around the world. Three types of shortcomings are especially common in studies that are aimed at informing policy decisions:

- **Focus on positive results, underreporting of negative results:** With rare exceptions, mistakes, problems and failures are not well documented nor reported. The turnover of newly-created centers appears to be quite high, insinuating a far higher failure rate than what is reported. Under-reporting of negative findings is not limited to telecentre research. (Some recent notable exceptions discuss negative profitability of ICT in small and medium enterprises, or negative impact of hackers as active users of ICT: (Esselaar, Stork et al. 2006; Shachaf, Hara et al. 2006).
- **Focus on anecdotes and success stories:** Numerous research results report on individual cases and experiences, documenting success stories and anecdotes that are difficult to aggregate as evidence of social impact: refer to the common saying, the plural of anecdote is not evidence. Success stories have the advantage of producing compelling, sometimes personal narratives that are very useful for public relations and persuasion; but they tend to give very partial views of complex phenomena, focus on unique situations that are generally not representative of a broader population or context, and can easily lead to irrelevant or utterly wrong conclusions and decisions. Notable exceptions are current efforts to develop evidence-based narratives that go beyond isolated anecdotes (Center for Information & Society 2008)
- **Focus on intentions, weak causality:** Reports of telecentre impacts and ICT use in development confuse intentions with results. They often claim as outcomes what they set out to accomplish, but fail to measure it in any credible way. Assertions that public access to ICT brings about income generation and citizen participation, or

economic prosperity and democracy, tend to be unsupported by evidence. A timid attempt to overcome this limitation is exhibited in a recent evaluation of UNESCO's Community Multimedia Centers, arguing that the accomplishment of stated intentions is difficult to prove (Creech 2004).

These three limitations are common in studies of public access initiatives, and are frequently inter-related. Donors and businesses that have invested resources in this field are eager to demonstrate positive results, and policymakers are eager to prove their proposed initiatives have impact. But social and economic impact is still elusive, a difficult phenomenon to grasp.

From impact to outcomes: Attribution

Assessing impacts of social interventions is a complex undertaking for a number of reasons: it is easy to count installed computers, number of users, or hours of training; but it is quite difficult to link these factors to poverty reduction or stronger democracy in any credible way. Social and economic impacts happen downstream, many years down the road. They are the result of a multitude of forces combined over time, making it virtually impossible to attribute the individual causes to any single intervention upstream. In 2000 Terry Smutylo, then Director of Evaluation Unit at IDRC, came up with a powerful way to convey this message in a song, now cited even by Michael Quinn Patton in his recent update to qualitative evaluation text (Patton 2002):

Output / Outcome / Downstream Impact Blues (fragment)

Impact, they find,
When it does occur,
Comes from many factors
And we're not always sure
Which ones
Came from who
'Cause impact is the product
Of what many people do...

Chorus:

**Impact any place
Impact anytime
You may find it 'round the corner
Or much farther down the line
It may happen in a way
That you did not choose,
We got them output/outcome/
Downstream impact blues.**

There has been much discussion about whether evaluating the impact of ICT interventions for development is any different from the evaluation of other social interventions, but most of the debate has been inconclusive. Research about ICT tends to incorporate ICT tools as part of the research process (online surveys, web use trackers, for example), and ICT-related activities are embedded into other social and communication practices in the communities under study; these factors make it more difficult as ICT are at the same time object of study, tools in the research, and diffuse social practices in the communities. Furthermore, the impacts of ICT interventions for development happen downstream, caused by many factors, and they frequently have unanticipated consequences, both positive and negative. In sum,

assessing the social and economic impact of public access to ICT is a good case of “downstream impact blues”.

Outcome Mapping (Earl, Carden et al. 2002) has been gaining momentum in the field of international development as a way to address “The Impact Blues:” by tracking observable changes in behavior by people who are directly influenced by project activities. Outcome Mapping bypasses the fixation on impacts, and targets the measurement of outcomes, where attribution and causality can be more readily established. This type of “soft systems” approach allows a better understanding of complex relationships between different people involved or affected by a project, but the suggested tools, process and methods to carry it through tend to be extremely time and resource intensive, making it very difficult to carry out in full. Furthermore, when it comes to using research results, stories about impact (especially if illustrated with a picturesque anecdote) tend to be more compelling than stories about outcomes.

Back to basics: an Integrated Iterative Approach

What would it take to analyze the impacts of public access computing in a way that captures the holistic, integrated and empowering approach espoused by early pioneers of telecentre evaluation ten years ago? While the discourse has certainly changed, the value of promoting evaluation and research that is participatory, socially inclusive, locally grounded, public and transparent, methodologically appropriate, gender sensitive, enhances sustainability, builds capacity, reflects shared visions, and is strategically oriented (Gómez and Hunt 1999), still holds true. An ongoing study of public access venues around the world is attempting to understand users and uses of telecentres, public libraries and cybercafés in 25 countries, based on a research approach that encompasses these values to answer the following question: **What are the information needs and opportunities to strengthen institutions that offer public access to information and communication, especially to underserved communities, and especially through the use of digital ICT?**

To answer this question, a team at the Center xxx at the University yyy explored different frameworks that could help structure the research process (DFID 1999; Whyte 2000; Earl, Carden et al. 2002; Gómez and Reilly 2002; Camacho 2004; Bridges.org 2005; Heeks 2007) and chose one of them, the Real Access framework, as a starting point. The Real Access framework was developed by Bridges.org in South Africa in 2005, as a framework to understand uses of ICT as part of development initiatives. Compared to other frameworks, the strength of the Real Access framework is that it has been tested on the ground in several countries. For the purpose of this study, it provided enough structure and flexibility to adapt to the research needs and local context of each country in the sample. In brief, it was chosen for its simplicity, flexibility, appropriateness, and applicability in diverse contexts around the world.

Early involvement of different stakeholders and local research partners helped us refine the Real Access framework and adapt it to the needs of this research, making sure all key categories and dimensions of analysis were addressed. At the same time, multiple iterations and revisions in the process of the research design, data collection and analysis helped make sure that the most meaningful questions were being asked in the most meaningful way, which would result in interpretations and findings that are useful, credible, dependable and trustworthy (Lincoln 1995; Denzin and Lincoln 2005; Villiers 2005). These are the key design features of our Integrated, Iterative Approach (IIA) rooted in the interpretivist tradition of social inquiry.

The original Real Access framework by Bridges.org (2005) suggests twelve themes to analyze ICT use¹. This research used the Real Access themes as a starting point, grouping them into three categories (equitable access, human capacity, and enabling environment); they also expanded some of the categories to address the situation of venues that do not currently offer ICT as part of their services (particularly public libraries in several countries), and added a notion of change over time (past trends and future directions), to compensate for the relatively static nature of the original framework.

After the local research partners were identified, three workshops were held in different parts of the world to review the proposed methodologies and refine the research design. As part of the results of these research design workshops, two new themes were added (social appropriation of technologies, and international policy and regulatory framework), making the research framework more robust. Moreover, the early involvement of the research teams from all countries was essential to ensure a common understanding and approach, which resulted in stronger local ownership, cross-team and cross-country collaboration, local relevance of tools and research processes, and global comparability of findings, among other valuable contributions.

Based on common research design elements to ensure research results would both answer the research questions and promote the kind of values and learning identified above, each local team designed and conducted research to best respond to local context and needs, and in a way that capitalized on the team's expertise and networks. Each team identified key public access venues to study in their country and produced a preliminary report over a period of two months. Preliminary reports were then analyzed across countries to look for early indications of gaps, similarities, trends and opportunities, and to inform the direction of the next iteration of the process, Phase II research.

Phase II was launched by gathering all researchers again to discuss the research process, emergent findings, and next steps. The research team revisited the original research framework, and identified and incorporated additional themes emerging in the findings that were not part of the Real Access framework. Phase II is currently underway, over a period of four months, after which final country results will again be compared and analyzed.

Ongoing progress holds great promise to yield credible and persuasive results, which will be available before the end of 2008 (in time for verbal updates at the Prato Conference). Preliminary results discussed in greater detail elsewhere highlight regional trends, as well as valuable insight based on the Real Access framework categories to understand access, capacity and environment and how they shape public access to information and ICT. But more interestingly, preliminary results also shed light on a number of unexpected results or issues of interest to understand what goes on in public access venues:

Collaboration Opportunities: Beyond the focus on one venue or another, our research points to the need for better and effective collaboration among *existing* venues as the most promising opportunity to actually strengthen the public access landscape in a country. One of the strongest themes that emerged was the insistence of better collaboration between venues already providing access to ICT - whether between public libraries and community libraries or between various government initiatives providing similar services.

Shifting Media Landscape: Preliminary findings shed light on a variety of new media experiences and tools that are being used to meet the information needs of marginalized communities. Some new opportunities include innovative uses of community radio, the use of

¹ The twelve original themes in Real Access framework are physical access, appropriateness, affordability, human capacity and training, locally relevant content, integration into daily routine, socio-cultural factors, local and macro-economic environment, political will and public support, and legal and regulatory framework. www.bridges.org.

instant messaging, or the use of Wi-Fi hotspots. Several countries reported the growing use of mobile phones that have started to replace public access venues for ICT use.

“Cool Factor” and Where People Go: Preliminary findings highlight the importance of working to strengthen the venues where people go, which are not necessarily the ones government, agencies or researchers thought. In understanding where people go or don’t go, perceptions may matter more than institutional support, training or services offered. Especially among youth, strengthening places that are perceived as “cool” and where youth like to “hang out” may be more effective ways to reaching marginalized communities. Public libraries were seen as “cool” or relevant in very few places. In some countries the prevalent perception is that libraries are for students and academics, while in others they are perceived as safe places to go, especially for youth or women.

“Legitimate” Use: The fourth insight from preliminary findings is related to information needs and services offered. A discussion on what constitutes “trivial” and “non trivial information;” and what is “acceptable” use of public access venues is an important one to engage in. For example, in one country we received information stating that cybercafés were one of the most popular venues for public access to information, but that they provided access only to trivial information. Another country team reported that youth wasted computer time by using chat while others who “really needed to use computers” waited. In some instances access to email, or blogs, or social networking sites such as Facebook were blocked by administrators, alleging they are not “serious” uses of ICT; in many other venues users are prevented from downloading and installing third party applications, especially open source software, even though there could be opportunities for innovation and creative solutions if these resources are used effectively. The decision of what constitutes “trivial” or “legitimate” use of the ICT facilities carries many unintended consequences that need to be further explored.

Information or Communication: while we structured this research around understanding information needs and how they are met through public access venues and ICT services, we are finding increasing evidence that public access venues are not necessarily places people go to look for information: rather, they are places for communication and interaction, either in person or online. As a safe place for people to meet, spend time and interact with their friends, public access venues that offer ICT may be offering an extension of such communication space: access to online interaction and conversation may far outweigh the value of the concrete information people seek or actually use.

The Quest for Intangibles: how to measure impact

The intangible impacts of ICT are particularly hard to measure, yet are important gauges of social impact. The sense of connectedness and empowerment that is achieved through these intangible dimensions may contribute to economic development and growth. The strength of the group is measured through the strength of the individuals in a community – how to measure this strength? We might refer to this societal/community empowerment as “human capacity” or “social appropriation.” It looks beyond the pure “tangible” impacts and might be measured through interconnected factors such as human resource and infrastructure improvement, life expectancy, literacy rates, distribution of power, diet, income, poverty rates, occupational structures, and enlargement of people’s opportunities for choice (Ashraf, 2002). This is not easy to measure, as attribution is often not direct. People often share their technology resources and information, which may have originated from the Internet and may well have been passed along by word of mouth. In addition, how people utilize different information is highly variable, again making it difficult to measure.

Further, it is not just the technology itself, but how the technology is utilized, that makes the difference. “When we talk about technology we are only referring to the instruments, not the social, economic or cultural development. A knife is just a knife, it can be used to hurt someone or to carve a beautiful wood sculpture. Content and utilization is what makes the difference” (Arunachalam, 2002). Local content and community buy-in are crucial to

technology adoption (Aranachalam, 2002; Ashraf, 2007). But we circle back to the measurement of this social and human empowerment. ICT enables access to crucial information and communication networks, but the power goes beyond the individual and into the community, hence the confusion in the need to separate legitimate from non-legitimate usage. Through the integration of ICT into the daily lives of people, we enable choice, freedom, opportunities, interaction, and communication. Can we measure satisfaction? We need to move beyond wealth and economic variables to empowerment and community connectedness variables to determine how ICT is affecting people's lives. In addition to who is using ICT, discussions need to be had about how this influences people's daily lives, what information is needed in each context, what technologies are serving individual and community needs, and most importantly, how these technologies can be adapted to empower communities and underserved populations. By looking at individual needs in particular contexts, we obtain a better picture of impacts and how outcome can be measured.

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