



# Libraries, Telecentres and Cybercafés: A study of public access venues around the world

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**Chris Coward, Ricardo Gomez, Rucha Ambikar**

University of Washington, Information School

[www.cis.washington.edu](http://www.cis.washington.edu)

## Abstract:

This paper offers early insight into ongoing research comparing public access venues such as libraries, cybercafés and telecentres in 25 countries around the world. We study information needs and uses of information and communication technologies (ICT) in these public access venues, with a particular focus on underserved populations. Understanding trends, differences and similarities across venues and across countries offers an emerging map that will help researchers and policymakers conduct future research and make better decisions to strengthen public access to information through ICT.

## Introduction and project description

Over the last decade, providing public access<sup>1</sup> to information and communication technologies (ICT) has been seen as an important contribution to help address digital inclusion for social and economic development, sometimes referred to as bridging the digital divide. Early interventions aiming to narrow the gap between the digital haves and have-nots focused on **access** to computers and technologies, in the hope that such access would bring about more equitable distribution of resources, knowledge and solutions to people's problems. This simplistic approach has long been criticized, with growing voices insisting that access alone is not enough to promote social inclusion or bridge the digital divide (Barzilai-Nahon, 2006; Bryne Potter, 2006; Fink & Kenny, 2003; Gómez & Casadiego, 2002; Gómez & Martínez, 2001; Gurstein, 2003; Wilson, 2004; Yu, 2001). While insufficient, access to ICT is a starting point, and a valuable one if accompanied by explicit programs to promote meaningful use and social appropriation of the information and technology resources in question.

Acknowledging that providing access alone is insufficient to bridge the digital divide, this large-scale comparative research seeks to understand public access venues in different countries around the world:

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<sup>1</sup> We use the term "public access venues" to refer to institutional places that offer access to information, with or without ICT, and that are open to the public without restrictions that exclude some over others. Some of them charge nominal or cost-recovery fees (public access is not necessarily free access) and many public access venues are **not** government owned or operated (public access is not necessarily public institutions). Schools and academic institutions that restrict access to their libraries to the student or staff population alone are not considered public access venues in this study.

what they offer, what people do in them, and what opportunities they present to effectively promote social and economic development.

Many types of venues offer public access to ICT. Public libraries in the US and around the world have increasingly included computers and Internet access as part of their offerings to the population (John Carlo Bertot, McClure, & Jaeger, 2008; John C. Bertot, McClure, Thomas, Barton, & McGilvray, 2007; Heuertz, Gordon, Gordon, & Moore, 2003; Jaeger, Bertot, & McClure, 2007; Jørgensen, 2005). Schools have begun to include computers and technology as part of their education resources (Bonilla & Cliche, 2004; Fonseca, 2005; Fundacion Omar Dengo, 2006; Grace & Kenny, 2003; Ortiz & Ramirez, 2004; Subramanian, 2006), and numerous government and non-governmental initiatives have created different types of telecentres<sup>2</sup> as spaces to serve people who would otherwise be excluded from the so-called information society (Amariles, Paz, Russell, & Johnson, 2006; Delgadillo, Gómez, & Stoll, 2002; Phillip & Foote, 2007; Gómez & Ospina, 2001; Jensen & Esterhuysen, 2001; Parkinson, 2005; Proenza, Bastidas-Buch, & Montero, 2002; Toyama, 2007; UNCTAD, 2007; Whyte, 1999). At the same time, different flavors of for-profit entities broadly referred to as cybercafés have appeared in cities around the world, initially in neighborhoods with high income or high tourist populations, eventually reaching out to other sectors as well, constituting a new and in many places, important source of public access to ICT (Finquelievich & Prince, 2007; Haseloff, 2005; Robinson, 2004; Stewart, 2000). This study examines public libraries, telecentres and cybercafés in 25 countries, and explores to what extent they meet the information needs of the local populations, with a particular emphasis on underserved communities.

Outside the scope of this study are venues that restrict access to certain segments of the population (e.g. private and academic libraries, if they only offer access to students or other specific populations), and venues that do not have some form of institutional support or are part of a network (hence places like tea houses, hair salons, or butcher shops are omitted from this study, even though they are important places where people gather to get and exchange information). The reason for this exclusion is that the purpose of this research is to inform policy makers and other stakeholders with information and insights that could be utilized to strengthen public access programs at national or regional levels, which requires strong local institutional backing and support. We even discussed, early on, whether cybercafés should be included at all, for the same kind of reason. But we included them where relevant, recognizing the importance of cybercafés in offering public access to ICT, even where there is no strong institution or network that supports them.

The study is unique in three ways:

1. It is done in partnership with local research teams in 25 countries around the world, building on common research design elements to allow stronger comparisons, with local adaptations to make it relevant to unique contexts;

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<sup>2</sup> We use the generic term “telecentre” to refer to experiences that offer public access to digital technologies, with no or low cost, and that are somehow linked to community development activities of the populations they serve. They have interchangeably been called telecottages, public cabins, village kiosks, village information centers, community technology centers and other labels in the literature on this topic.

2. It is based on an integrated, iterative approach that combines different research methods in a process that regularly revisits the questions, findings and insights to identify trends and patterns as they emerge in the research process; and
3. It studies public libraries, telecentres and cybercafés side by side, while most studies in the past have looked at them independently of one another.

The findings discussed here are based on preliminary reports and ongoing research; final results will be available by the end of 2008.

### Sampling rationale: where in the world?

Our study explores the landscape of public access to ICT in a sample of 25 countries from emerging economies around the world. We focused on countries that are in the middle of the pyramid, i.e., not the richest or poorest, and not the largest or smallest, so we followed four successive steps to arrive at the final selection of 25 countries: 1) We started by excluding the top third and the bottom third both in terms of population (between 1 million and 1 billion), size (exclude largest and smallest), and wealth/poverty (using gross per capita income data from the World Bank and Human Development Index), to focus on the middle band of 70 countries that are in neither extreme, in order to produce findings that are more easily generalizable.

2) From these countries, the second step involved dropping 16 countries based on a low perceived freedom of press (Freedom House Index), in order to ensure independent research could actually be conducted in the selected countries.

3) The third step of the selection process involved creating two composite indices that measure information needs and readiness in each country, particularly in relation to ICT use, in order to narrow the sample to 30 countries. The “needs” criteria included: **Inequality**<sup>3</sup>; **ICT usage**<sup>4</sup> **ICT cost**<sup>5</sup>. The “readiness” criteria, on the other hand, included: **Politics**<sup>6</sup>; **Skills**<sup>7</sup> **ICT infrastructure**<sup>8</sup>. We used a three-

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<sup>3</sup> Income inequality was used as a proxy indicator for measures such as geography, ethnicity and gender inequalities, where greater inequality suggested greater potential need for public ICT access. Gini index (2006) from United Nations Development Program.

<sup>4</sup> Internet users per capita was used as a proxy indicator for ICT use within a country, where lower ICT usage indicated greater potential need for public ICT access. Data from CIA World Factbook (2007).

<sup>5</sup> Lowest broadband cost as a percentage of monthly income was used as a proxy indicator for ICT cost, where higher ICT cost suggested greater potential need for public ICT access. Data from International Telecommunications Union’s World Information Society Report (2006).

<sup>6</sup> Eight expert-survey-based indices were used, including: government prioritization of ICT; importance of ICT to government’s vision of the future; government success in ICT promotion; intensity of local market competition; freedom of the press; corruption perceptions; government effectiveness; and regulatory qualities, where each index served as a proxy indicator to evaluate multiple dimensions of political support and policies, while also suggesting greater potential readiness for public ICT access. Listed in order, data from: World Economic Forum Global Information Technology Report (2006), Transparency International (2007), World Bank Worldwide Governance Indicators (2006).

<sup>7</sup> Adult literacy and school enrollment was employed as a proxy indicator for skills, where high literacy and enrollment rates indicated a greater potential readiness for public ICT access. Data from International Telecommunication Union opportunity skills index (2007).

tier ranking system representing high, medium and low readiness, with each tier ranked according to need. This placed 25 countries in Tier 1 (high readiness, high to low need), 25 countries in Tier 2 (medium readiness, high to low need), and 24 countries in Tier 3 (low readiness, high to low need). We then decided on a distribution of 8 countries in Tier 1, 14 countries in Tier 2, and 8 countries in Tier 3 for a total of 30 countries. This distribution was chosen in order to capture more countries in the middle tier of readiness, along with a sample of countries that could represent higher risk and high impact potential for program interventions.

4) The fourth and final step in the selection of 25 countries was based on four additional tipping factors: regional balance and representation, number of public libraries per country, known initiatives to increase public access or plans for future infrastructure development, and availability of qualified local research partners.

Local researchers were selected through another iterative process: a call for expressions of interest was circulated, which generated 220 responses from around the world; a request for qualifications was then issued to a subset of them, resulting in over 50 proposals to conduct local research. A final group of 19 qualified local research teams (some researchers representing more than one country) was retained to conduct the study, coordinated by our team at University of Washington (UW).

The following chart shows the final list of 25 countries included in this study, and how they were ranked in the needs and readiness assessment:

<i>Needs &amp; Readiness</i>		<i>Needs</i>	
		<i>Higher and Medium</i>	<i>Lower</i>
<i>Readiness</i>	<i>Higher and Medium</i>	<i>Algeria Brazil Colombia Dominican Republic Georgia Kazakhstan Peru Philippines South Africa Sri Lanka</i>	<i>Argentina Costa Rica Egypt Malaysia Moldova Mongolia Turkey</i>
	<i>Lower</i>	<i>Bangladesh Ecuador Honduras Namibia Nepal Uganda</i>	<i>Indonesia Kyrgyzstan</i>

**Figure 1: Country Selection, Needs and Readiness of public access to ICT**

### Analytic framework: Integrated Iterative Approach

The study was designed following an integrated, iterative approach that builds on the collective strengths of the research teams and on emerging lessons from the research process. The guiding

<sup>8</sup> Fixed phone density, mobile phone density and international Internet bandwidth was used as a proxy indicator for ICT infrastructure, where higher teledensities and Internet bandwidth indicated greater potential readiness for public ICT access. Data from International Telecommunication Union opportunity network index (2007).

research question for this study was: **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, we explored different frameworks that could help structure the research process (Bridges.org, 2005; Camacho, 2004; DFID, 1999; Earl, Carden, & Smutylo, 2002; Gómez & Reilly, 2002; Heeks, 2007; Whyte, 2000) 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 the range of economic, political, educational, infrastructure, cultural, organizational and other factors that affect whether someone truly has 'access' to ICT. In other words, it is based on the assumption that providing computers alone will not solve the access challenge, an assertion that has been validated by the numerous public access initiatives of the past decade (Alampay, 2006; Bossio, 2004; Colle & Roman, 2001; Dagron, 2001; Delgadillo et al., 2002; Etta & Parvyn-Wamahiu, 2003; Gómez & Ospina, 2001; Gómez & Reilly, 2002; Jensen & Esterhuysen, 2001; Maeso & Hilbert, 2006; Parkinson, 2005; Proenza, 2001; Simpson, Daws, & Pini, 2004; United Nations, 2007). Compared to other frameworks, the Real Access framework 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, we chose Real Access framework 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 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 (Denzin & Lincoln, 2005; Lincoln, 1995; 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 suggests twelve themes to analyze ICT use<sup>9</sup>. We used these as a starting point, grouping them into three categories (equitable access, human capacity, and enabling environment). We expanded some of the categories to address the situation of venues that do not currently offer ICT as part of their services (public libraries in some countries, in particular), 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

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<sup>9</sup> The twelve original themes in the 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](http://www.bridges.org).

these research design workshops, two new themes were added (social appropriation of technologies<sup>10</sup>, 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, 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 in consultation with the UW team they 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, emerging findings, and next steps. We 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. This paper presents results to date based on Phase I of research and progress on Phase II.

## Preliminary Results

Part of the value of this comparative research is to go beyond geographic proximity to uncover trends, patterns and commonalities across countries, based on an examination that uses a common framework to understand public access to ICT. After analyzing preliminary data from most<sup>11</sup> countries in the sample we identified three kinds of lessons:

1. **First Level Findings: Regional Trends**-- Preliminary results reflect the diversity of venues that offer public access to ICT. Not surprisingly, there are salient regional trends and similarities across countries within similar regions of the world.
2. **Second Level Findings: New Understanding of Access, Capacity and Environment**: Beyond regional features, preliminary results help us understand differences and similarities in access, capacity and environment for public access to ICT. Our comparative analysis offered a novel way to understand and group commonalities and differences across countries under a new light.

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<sup>10</sup> The label "Social Appropriation" is derived from the Spanish concept of *apropiación*, which implies taking ownership and transforming the use for purposes not necessarily intended by the original designers of the project or technology. See (Camacho, 2002; Echeverria, 2008) for a more in depth discussion of the concept of social appropriation.

<sup>11</sup> Dominican Republic, Indonesia and Malaysia had very incomplete preliminary results by the end of Phase I, so they are not well represented in this early analysis.

3. **Third Level Findings: Emerging Insights and Ideas to Explore Further:** Beyond the Real Access categories, which offered the main “lens” for our study, we were also looking for emerging, unanticipated results as part of our research. Our iterative and open-ended approach to the comparative analysis revealed new insights about public access and ICT. Some of these emerging insights are being explored more deeply as ongoing part of Phase II of this research

The following section of the paper looks at these three lessons in more detail. We present preliminary numbers for venues, along with a sense of some of the regional themes that emerged in the sample of countries, followed by initial results of comparative analysis around access, capacity and environment dimensions; finally, we discuss some of the new, emerging insights that help to better understand public access to ICT in these countries.

When looking at the types and numbers of venues, it is important to note that while not all countries include figures for cybercafés or other types of venues, with few exceptions the library numbers are generally smaller than the non-library ones. Furthermore, libraries don’t always offer ICT services (our data is incomplete to offer an accurate estimate of the proportion of them that do in each country). Numbers of cybercafés tend to be general estimates for each country; with the notable exception of Peru, they frequently operate as small, independent businesses and they tend not to be organized in a network or collective body. Finally, researchers in each country identified different kinds of “other” venues as meaningful in providing public access; data about other venues may be difficult to compare across countries.

Country	Public Libraries	Telecentres	Cybercafés	Other	Notes on other
Algeria	752	6,685	7,000	500	private and religious libraries
Argentina	2,186	364	18,500		
Bangladesh	667	1,189		2,085	academic and popular libraries
Brazil	5,214	13,351	58,000		
Colombia	1,588	1,490	1,501	208	public offices for service and attention to citizens
Costa Rica	58	104	1,000		
Dom. Republic	7	670			
Ecuador	550	112		200	wi-fi plazas
Egypt	1,127	1,698		1,500	public sector offices
Georgia	1,397			208	national and foundation libraries
Honduras	128	122		52	Riecken Foundation libraries
Indonesia	14,516	400	7,000		
Kazakhstan	2,000	30	100	100	wi-fi spots
Kyrgyzstan	289	150			
Malaysia	1,326	42			
Moldova	1,391	126	474	35	employment offices
Mongolia	1,700	32	105		
Namibia	26	13		1,645	school and community libraries
Nepal	300	250	5,000	800	community libraries
Peru	730	72	32,000	106	specialized libraries
Philippines	1,156	741	6,473		
South Africa	1,534	154			
Sri Lanka	956	1,000	1,000	6,628	school and academic libraries
Turkey	1,161	850			
Uganda	65	130	25,400		

**Figure 2: Count of Public Access Venues by country**

## 1. First-Level Findings: Regional Trends

The countries of **Eastern Europe and Eurasia** in our sample (Georgia, Moldova, Kyrgyzstan, and Kazakhstan) shared a common history as part of the former Soviet Union. Remnants of the old Soviet administration left a cultural legacy of trust in public libraries. Teams in Georgia and Kyrgyzstan reported that while the people value public libraries, funding streams have dried up over the last sixteen years, leaving outdated information and infrastructure in the libraries. Presently, libraries are considered irrelevant due to this lack of current information, leading to a weaker perception of public library value. The future funding prospect for public libraries appears bleak.

**Latin American** countries in our sample reflected many elements of a shared cultural heritage, including common language for most of them. Latin America is home to regional organizations that are engaged in developing public access venues. Economies of scale in the region may also make planning policy interventions easier, although current lack of infrastructure and political instability could pose roadblocks in such policy interventions. One of the most resounding findings in this region has been the enormous popularity of cybercafés. Honduras and Peru reported that more than half of all ICT usage in these countries takes place at cybercafés. The enormous and steadily increasing popularity of mobile phones is also improving public access to information. In general, public libraries do not enjoy much popular patronage but were seen as places for academics.

Bangladesh, Nepal and Sri Lanka were included in our **South Asia** sample. As expected, a common observation among these countries was a need for a larger proportion of the countries' resources to be earmarked for fulfilling the basic needs of their populations. Common challenges in the three countries included a lack or minimal infrastructure, including electricity, roads, availability of network cables providing internet access, etc. The geography of all three countries posed significant barriers to facilitate public access to ICT; be it the mountainous terrain of Nepal, the tsunami-affected regions of Sri Lanka, or the seasonal flooding in Bangladesh. On the positive side, governments of all three countries are reported to be promoting ICT by encouraging foreign investment to provide inroads in this area.

## 2. Second-Level Findings: New Understanding of Access, Capacity and Environment

This research provided a unique opportunity to study 25 countries around the world using a common research framework, and comparing results side by side. While each country team undertook local research to produce locally meaningful results, we undertook a comparative analysis of all country reports to identify common threads, emerging patterns, unique features... This iterative process helped to corroborate that the modified Real Access framework was, in fact, a good starting point for our research: it provided a basic structure by which to operationalize research questions, collect data and analyze results. Preliminary findings in relation to access, capacity and environment (the key research dimensions in our study) are summarized below at a high level. More detailed and final results will be available at the end of 2008, once research in all countries is completed.



### a) Equitable Access

As expected, the geography of a nation influenced **physical access** to ICT. One of the most common reports we received was the concentration of venues providing public access to ICT around the major metropolitan areas of the country. For example, while access to ICT is widely accessible in Kathmandu, Tbilisi, and Cairo, it is much less accessible in the rural areas outside the capitals of Nepal, Georgia, and Egypt. This theme of uneven distribution of venues was echoed in the urban vs. rural areas. In many countries a lack of general infrastructural support has prevented proliferation of ICT, although in some unique cases such as in Namibia, communities have harnessed solar power and use diesel generators to power wireless connectivity in schools.

The **appropriateness of technology** was reported to be a common concern by our research partners. In countries such as Ecuador, Georgia, Peru, South Africa and Sri Lanka, we received strong indications that lack of content in local languages, as well as lack of locally relevant content prohibits users from accruing the benefits provided by public access to ICT.

Numerous researchers cited the **cost** of various venue types as prohibitive for many populations in obtaining access to information. In addition to the fee-for-service costs, a common thread across countries such as Peru, Egypt and Algeria was the inclusion of costs other than ICT usage costs —the high cost of transportation to get to the venues, and the likelihood of poorer communities to be working during the regular hours of operation, as was reported in the case of public libraries in Egypt. On a positive note, countries such as Bangladesh, Mongolia, Kyrgyzstan, Kazakhstan and Moldova reported expectations of lower costs of ICT usage in the near future.

### b) Human Capacity and Relevance

More than half of the countries included in our sample reported a **lack of trained knowledge workers** to help use of and public access to ICT. Kazakhstan, for example, reported that even with a high literacy rate in the country (99.5%) technical literacy lagged far behind due to lack of trained teachers in the area. Countries such as Moldova also reported the phenomenon of brain drain where qualified staff was leaving rural areas for urban centers, leaving rural patrons without recourse to help in ICT usage.

**Lack of locally relevant content** was almost unanimously reported to be a barrier to ICT access and use. In countries such as Brazil, Costa Rica, Georgia, Sri Lanka and South Africa, our researchers reported a shortage of content in local languages, as well as limited access to current information. The obscurity of official information in Brazil renders access to current local information particularly important.

**Integration into daily routines** is critically tied to accessibility. Transportation issues have caused difficulty in accessing venues providing ICT in Peru. Honduras researchers reported that the inability to communicate with loved ones who had emigrated overseas produced significant information gaps.

**Trust in technology** is necessary if increasing public access to ICT is to benefit those currently underserved populations. Ecuador reported that with government restrictions limiting people's access and use of technology, ICT was not seen as a valuable resource. Another resounding theme in our

findings was that people did not see the value of ICT in their daily lives. In countries such as Costa Rica, Egypt, Moldova, Nepal and Sri Lanka, there was a reported low awareness of the benefits of technology and a lack of recognition of any information gap.

**Social appropriation of technology** was added to our matrix of factors affecting use and access of ICT, in order to understand local solutions and creation of knowledge, and other unintended uses of information and technologies at public access venues (Camacho, 2002; Echeverria, 2008). In countries such as Sri Lanka, we found a strong criticism of the content provided as well as technology provided through a Western bias; researchers there have reported a desire to engage in content production that presents information with a differing view-point. Countries in Latin America also reported community organizations being formed in public access venues that champion local issues, not directly related to ICT. The public access and use of ICT in such instances has promoted civic engagement. These themes of social appropriation are being further investigated in Phase II of our research.

### c) Enabling Environment

As can be expected, along with location in urban or rural areas, traditional **socio-cultural inequalities** such as class, gender, minority status, etc. severely affected access and usage of ICT, along with location in urban or rural areas. Gender was reported to be a barrier to accessing venues that provide ICT in countries such as Algeria, Egypt, Turkey, and Nepal. Interestingly, an exception to this trend was reported in Egypt, where the use of public libraries was encouraged for women, as libraries were considered safe public places for women to gather.

Several researchers reported that the way governments have habitually handled public information plays an important role in shaping the environment of public access to information. For example, Turkey and Egypt do not appear to have a strong tradition of governments providing information to the public. This is a trend that continues today, in which government agencies have been slow to provide information that is easily accessible and relevant to people's lives.

**Local and macro economic factors** heavily influenced public access to information and communication through ICT. Factors such as poverty, conflict, migration, and unemployment, necessarily divert government resources to the fulfillment of basic needs, which was reported to result in a lower prioritization of public access to ICT. This was particularly true in the case of countries such as Honduras and Nepal. Public access to information and ICT thus suffered as a result of the **competition for scarce government resources**.




In general, we observed increasing **political will and political support** for public access to ICT. This, however, was not always formalized in the legal and regulatory framework, creating a mismatch between aspiration and reality in the country. Researchers reported a lack of follow-through on planned government initiatives due to changes in government in some Latin American countries. In several cases, changes in government were attributed to conflict or war. In the Philippines we received reports that while public access and use of ICT is growing rapidly, especially through the use of mobile phones, the severe lack of governmental support in the country has created significant barriers.

In the cases of Bangladesh and Sri Lanka, the government created roadblocks to the implementation of policy due to its **legal and regulatory framework**. For example, wi-fi services require licensing under Sri Lanka laws, creating what was reported as unnecessary delays; while network cables in Bangladesh were owned by a government telecommunication monopoly, making it nearly impossible to argue for lower ICT costs.

In Latin America initiatives have emerged out of **regional and international environments** that support the increase of public access to ICT. Regional researchers also report increased investment by foreign donor agencies in the field of ICT. This is currently being investigated in greater detail.

**d) Comparative Rankings: Access, Capacity and Environment (ACE Rankings)**

In our analysis of preliminary findings we combined all factors and assigned an interpretive score of high, medium or low to each category of access, capacity and environment for each country. The groupings that result from the combination of these three scores offer new insight into similarities and differences across countries, *regardless of geographic location*.

<b>ACE Rankings</b> (tentative, based on preliminary findings)	
 <p>Lower barriers (2+ high scores)</p>	Brazil Costa Rica Egypt South Africa Sri Lanka Turkey
 <p>Medium barriers (1 low, or 1 high, or 3 medium scores)</p>	Algeria Argentina Colombia Ecuador Georgia Kyrgyzstan Peru Philippines Uganda
 <p>Stronger barriers (2+ low ACE scores)</p>	Bangladesh Honduras Mongolia Namibia Nepal Kazakhstan Moldova

**Figure 3: Comparative Rankings - Access, Capacity and Environment (ACE Rankings)**

These groupings—tentatively labeled **lower barriers**, **medium barriers**, and **stronger barriers**—represent a new understanding of the opportunities to foster more widespread and meaningful public access to ICT in any of these countries. Upon completion of Phase II of this study we build upon these groupings to suggest a typology of public access landscapes based on access, capacity and environment.

Such typology will make it a lot easier to identify barriers and opportunities for intervention and analysis of initiatives that seek to promote social and economic development through the promotion of public access to ICT in any given country.

### **3. Third-Level Findings: Emerging Insights to Explore Further**

Our analysis of preliminary results also offered new insights about public access venues and uses of ICT in the countries studied. These themes do not necessarily “fit” into the analytical categories we used, but they kept surfacing in the data as salient enough to warrant further attention. As part of our integrated, iterative approach, these emerging insights are being studied further during Phase II of this research, thus they are only sketched superficially below.

**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 they are between public libraries and community libraries (as was the case in Argentina and Nepal), or between various government initiatives providing similar services, such as in Sri Lanka or Colombia. Most country research teams also recommended collaboration between different types of libraries, telecentres and cybercafés in order to provide the most impact.

**Shifting Media Landscape:** Preliminary findings shed light on a variety of new media experiences and tools that are being used to meet information needs of marginalized communities. Some new opportunities include innovative uses of community radio in Colombia, Nepal and Uganda, the use of instant messaging in Philippines, or the use of Wi-Fi hotspots in Peru and Kazakhstan. Several countries including Brazil, Colombia, Honduras, Peru, Philippines, and Turkey reported the growing use of mobile phones that could displace or transform ICT use in public access venues.

**“Cool Factor” and Where People Go:** Preliminary findings highlight the importance of working to strengthen the venues where people go to find information or communicate, which are not necessarily the ones government, agencies or researchers perceived as essential venues. In an attempt to understand where people go or don’t go to access information, 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”, safe or relevant in very few places. For example, Egypt reported that public libraries were safe places, but seen primarily as places for children or women. In other countries, especially in Latin America, the prevalent perception is that libraries are for students and academics. Sri Lanka and Georgia reported a perceived trust in libraries is accompanied by the perception that libraries were irrelevant since they tended to offer mostly outdated information.

**“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, hang out 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 five emerging insights described above constitute a rich source for further understanding of public access to ICTs beyond what was revealed by using the Real Access framework. More research about these issues, some of which is currently under way as part of Phase II, will help provide a richer and more meaningful understanding of public access venues and the role of ICT, in the context of social and economic development.

## Conclusion

This study is based on an iterative, integrated approach (IIA) to understanding the landscape of public access to information and ICT in 25 countries around the world, based on a modified version of the Real Access framework, to study ICT for social and economic development. Preliminary findings allowed us to identify the range of venues providing public access to ICT, and to confirm evident regional trends in public access to ICT. The adaptation and use of the Real Access framework also helped to further understand how access, capacity and environment play an important role in shaping the experiences of use of public access venues, especially by underserved populations in the countries under study. Furthermore, we suggest a tentative grouping of countries that results from ranking the relative strength or weakness of access, capacity and environment, key analytical categories used in this study. These groupings will be further tested and validated during future research associated with this study, with the intent of offering a robust and useful typology to understand the public access landscape of a country beyond the superficial (and often incomplete) picture offered by existing and commonly used statistical measures.

Finally, this research identifies emerging insights that go beyond the analytical categories of the (modified) Real Access framework; these emerging insights constitute a rich source of additional

information where future research can help to better understand the phenomena of public access venues and the use of ICT for social and economic development around the world.

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