

## THE NEGLIGIBLE ROLE OF FEES AS A BARRIER TO PUBLIC ACCESS COMPUTING IN DEVELOPING COUNTRIES

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### ABSTRACT

Public access to computers and the Internet can play an important role in social and economic development if it effectively helps to meet the needs of underserved populations. Public access venues such as libraries, telecentres and cybercafés are sometimes free, and sometimes charge user fees. User fees can be an important barrier to use of public access venues, especially among underserved communities in developing countries. This paper analyzes the role of user fees and other critical barriers in the use of computers in public access venues in 25 developing countries around the world. Results of this study suggest that digital literacy of staff and local relevance of content may be more important than fees in determining user preference for public access venues. These findings are important to public libraries, which tend to offer free services, but where perceptions of digital literacy of staff and locally relevant content tend to be lowest, compared to telecentres and cybercafés, according to the results of this study. More attention to digital literacy of staff and availability of locally relevant content may be more important than free services to meet the information needs of underserved populations.

### 1. INTRODUCTION

Information and communication technologies (ICT) can play an important role in community development. Public access to computers can extend the reach of ICT, offering access to those who do not have access to computers and ICT at home, at school or at work. Public access ICT through venues such as cybercafés, public libraries, and telecentres has become increasingly popular over the last 15 years. The International Telecommunications Union (ITU) reports that only 26% of the world's population has Internet access in their homes, with most access penetration in developed countries (2009). Access to ICT is certainly an important starting point, but it is not enough to help bridge the digital divide (Barzilai-Nahon, 2006; Potter, 2006; Fink & Kenny, 2003; Gomez & Casadiego, 2002; Gomez & Martinez, 2001; Gurstein, 2003; Wilson, 2004; Yu, 2001).

Telecentres are non-profit initiatives sponsored by governments or non-governmental organizations to offer public access to computers and related ICT with the intent of helping local community development. Cybercafés are increasingly being set up in developing countries, mostly as small businesses that offer access to computers and other related services. Although development is not their intent, cybercafés have been found to have *unintended* contributions to community development. Public libraries in developing countries are traditionally associated with books and printed materials, but they are increasingly offering access to computers and the Internet as part of their information services to the public, and as part of national strategies of digital inclusion, which aim to bridge the inequalities in access and effective use of ICT in society.

After the early euphoria of the 90s, public access venues for development have recently been targeted by criticisms including low usage, lack of project sustainability and scalability, poor management, and utilizing a top-down approach driven by the North (Etta, 2002; Heeks, 2002; Heeks, 2009; Thirumavalavan & Garforth, 2009). Libraries have a long tradition of being free to users, yet there is a strong proliferation of cybercafés charging user

fees. Some telecentres charge user fees, and almost all face financial sustainability troubles when external funding dries up. In this context, it is important to understand what makes users choose one venue over another. Is cost of access, represented in user fees, a determining factor for users to choose going to one public access venue over another? Or are there other factors that are more important to users when choosing a venue for public access computing? Answering this question can help set priorities for public access initiatives that seek to meet information needs of underserved communities, especially in developing countries.

This paper focuses on the role of cost of access, represented in user fees, as a barrier to use public access venues in developing countries. It is based on a study of public access venues that offer use of computers and Internet to the public, conducted in 2008-2009 in 25 developing countries around the world. The purpose of the exploratory, qualitative study was to better understand the phenomenon of public access to computers and ICT, and to inform further research and policymaking in order to strengthen public access to computers for community development. The study was focused on public access computing (i.e., did not include private use of computers at home, at work or at school), and was focused on use of computers and the Internet (i.e., did not include use of mobile phones or other media such as community radio).

Results of the study comparing libraries, telecentres and cybercafés in 25 developing countries indicate that cost may not be the strongest obstacle to effective use of computers in public access venues. In other words, free access is not necessarily a strong driver to help underserved communities make effective use of computers in public access venues. Even with free public access to computers and the Internet, other factors such as digital literacy of staff and availability of locally relevant content, among others, were found to be more important drivers than cost to use public access computers.

By analyzing data from 25 developing countries, we report findings on three important factors that emerged in the data as critical to effective use of ICT in public access venues: affordability and cost of ICT, availability of relevant content in local languages, and the digital literacy and helpfulness of venue staff. We examine how these indicators influence user attitudes toward, and ultimately use of, public access computers in libraries, telecentres and cybercafés.

We begin with a review of the literature on user fees and other barriers to use of public access venues, followed by the research methods for this study. The heart of this paper lies in the findings and discussion section, where we offer an analysis how influential user fees, content availability, and venue staff are in determining use of ICT in public access venues. To conclude, we propose recommendations for public access venues, as they move forward and seek sustainability. Suggestions for further research are also presented.

## **2. LITERATURE REVIEW**

Literature on ICT and public access venues abounds, particularly in relationship to development (ICTD). Recent literature reviews of ICTD and public access to ICT include Adeya (2002), Bell (2006), Benjamin (2000), and Sey & Fellows (2009). The entire Spring 2008 issue of the top-tier journal *Information Technologies and International Development* (ITID) was dedicated public access venues, particularly telecentres, and the impact of public access to information and communication technology (Bar & Best, 2008; Chigona & Licker, 2008; Cogburn & Levinson, 2008; Parkinson & Lauzon, 2008; Zhang, 2008). Unwin's recent book on ICT4D includes chapters on numerous case studies of ICT4D projects, as well as public access to ICT and policies surrounding ICT4D (Unwin, 2009). Unwin and Kleine (2009) also successfully present the history and theories of ICT4D, as well as the present state and potential future avenues for ICT4D projects in their recent article, "Technological Revolution, Evolution, and New Dependencies: what's new about ICT4D?". Beyond

literature and research reviews, there are many studies and much analysis on country, or region, specific public access computing projects, however, literature including cross-country examination across different types of public access venue is lacking. Case studies have focused on specific venues (Best et al., 2007; Bailey, 2009; Amariles et al., 2006; Benjamin, 2001; Hudson, 2001; Kuriyan & Toyama, 2007; Gitta & Ikoja-Odongo, 2003) such as cybercafés or telecentres, but mainly in one particular geographic area, by region or country (Parkinson & Lauzon, 2008; Best et al., 2007; Amariles et al., 2006; Benjamin, 2001; Gitta & Ikoja-Odongo, 2003; Jafri et al., 2002; Etta & Parvyn-Wamahiu, 2003; Gamage & Halpin, 2007; Kumar & Best, 2006; Pal et al., 2005).

The impact of user fees in public access venues has been slightly investigated, especially in public libraries and telecentres, but again, this is often country and venue specific. Most of the existing literature (Adomin, 2005; Best et al., 2007; Egholm & Jochumensen, 2000; Salvador et al., 2005; Stillwell et al., 2006; Ward et al., 2002), while revealing user behavior before and after fees are introduced, does not come to any resounding conclusions about whether or not fees are detrimental to venue use. One work that illustrates this is Egholm and Jochumensen's article, *Perceptions Concerning User Fees in Public Libraries* (2000). They outline several public library systems that charged user fees, and offer some findings about user attitude towards fees in public libraries. In many situations, they note, it is not possible to identify explicit relationships between the impact of user fees on library membership and use. Even when looking at ex-public library users, studies have shown that user fees were of little consequence in determining library use. In exploring user-fee subsidies in Kyrgyzstan telecenters, Best et al. (2007) found that distributing waivers for user-fees, essentially making telecentre use free, did not increase use of ICT in telecenters among underrepresented social groups. Additionally, they found that users who reported economic benefits from using the telecentre did not take advantage of the user-fee coupons.

The ways in which public access venues charge user fees vary. One model, popular in cybercafés and telecentres, are per-transaction, or pay-per-use, fees where users are charged by the minute or hour of ICT use. Another model is a subscription-based fee system, where users are charged for ICT use through a weekly, monthly, or most commonly, annual fee. In looking at rural PC kiosks, a form of public access to ICT, Kuriyan and Toyama (2007) found that user perceptions of fees differed depending on which model was employed. Through user and non-user interviews, they assert that annual fees or subscription-based models, either as explicit ICT subscriptions or included in another subscription (e.g., farmer cooperative membership fees) are more widely accepted by users, while many users and non-users alike feel that per-transaction rates are too high.

Analysis of the public access venue staff can be found in a few examples, particularly as their role as an "infomediary." Several authors have defined notions close to infomediary: Gatekeepers (Metoyer-Duran, 1993), key informants (Schilderman, 2002), lay information mediaries (Abrahamson & Fisher, 2007), or boundary spanners (Mason, 2003). We build on Gomez and Gould (2010), who refer to infomediary as "a liaison or broker between an individual...and information" (p. 2). As infomediaries, staff in public access venues can be evaluated on their digital literacy and willingness to help users, as this paper focuses on. In their overview of literature and research on public access to ICTs, Sey and Fellows, "infomediaries...have been found to be important contributors to the viability and sustainability of a public access venue, helping attract users to the site, and providing guidance and guiding users unfamiliar with ICTs" (2009, p. 7). Other literature also suggests that venue staff is critical in experience of venue users and overall sustainability (Bossio, 2004; Best & Kumar, 2008; Ulrich, 2004; Whyte, 2000).

There is often a "design-reality gap" in many public access venues, and this is particularly apparent in the availability, or lack thereof, of locally relevant content.

Bridges.org (2009) cites gathering user's input when designing an ICTD project helps to solve their information needs and desires that are relevant to them. Sey and Fellows (2009) found that financial sustainability of public access venues, as well as the levels and types of uses of ICT, depended on numerous factors, but chiefly among them is the availability of content that is locally relevant and in local languages. Heeks notes, "it was rapidly recognized during ICT4D 1.0 that plugging a peasant farmer or slum-dweller into Google was of limited use. Much of the information they required would not emerge because it was not present in digital format" (2009, p. 9). He goes on to describe projects developed to create relevant local content on "livelihood-appropriate issues such as health, education, agriculture, and rights" (Heeks, 2009, p. 9).

While the literature and research currently available suggests that charging user fees for ICT access may not be detrimental to the success of a public access venue, most of the literature places particular emphasis on staff training and helpfulness, as well as availability of content. Following the methodology section below, we will analyze the findings of the 25 country study to explore if our research aligns with current research, essentially asking what hinders or enables use more: fees (or lack thereof), venue staff, and/or relevant content?

### 3. RESEARCH METHODS

The findings reported in this paper are drawn from the larger study of public access computing in 25 countries. This section briefly describes the research methods of that broader study, and then the particular data analysis as applied for this paper.

The 25 countries (Algeria, Argentina, Bangladesh, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, Egypt, Georgia, Honduras, Indonesia, Kazakhstan, Kyrgyzstan, Malaysia, Moldova, Mongolia, Namibia, Nepal, Peru, The Philippines, South Africa, Sri Lanka, Turkey, Uganda) were selected through four successive sets of criteria to focus on a sample of developing countries with a mid-size geography and population, and with existing public library systems. The criteria for country selection were based on size, population and other demographic data, degree of freedom of expression, political unrest, a measure of "needs and readiness" criteria, regional representation, and availability of country research teams. For a more detailed description of research methods, and in particular the country selection process and rationale, see Gomez, 2009.

An iterative research design was conducted in two phases. We developed the Access, Capacity and Environment (ACE) Framework, adapted from the Real Access framework developed in South Africa by Bridges.org, to help understand the range of economic, political, educational, infrastructure, cultural, organizational, and other factors that affect the way people use ICT in public access venues. The three pillars of the ACE framework are: **equitable access**: physical access, suitability, and affordability of the venue, technology access; **human capacity**: human capacity and training (users and staff), meeting local needs, social appropriation; and **enabling environment**: socio-cultural factors, political will and legal and regulatory framework, popular support. For this paper we focus particularly on the analysis of a subset of these variables, namely affordability of venues, staff capacity and training, and meeting local needs. Affordability of venues was the starting point for the analysis; staff capacity and training, and meeting local needs were factors that emerged in the data as critical elements of concern.

#### 3.1 Data Collection

Nineteen local research teams were chosen following an international call for proposals. Lead researchers from each team were brought together twice to discuss the purpose, methodology, and emergent findings of the study. Detailed country reports were prepared by each local research team via a data collection template, which was designed to help each team organize

their local fieldwork to answer detailed questions about access, capacity, and environment issues in each type of venue studied. The reports also included information regarding the national environment, history, and trends in relation to public access initiatives. Each team conducted local research in local languages, using the following data collection methods:

**Document Review:** Identify and review salient literature in the country, including existing statistical information about population, ICT penetration, public access venues, government policies, and previous studies relevant to the study.

**Expert Interviews:** Identify at least ten specialists in the areas of interest of the project and conduct in-depth interviews with them. Interview guides were prepared in each country depending on the local needs and context.

**Operator Interviews:** Identify at least one operator in each site visited and hold a structured interview to provide a more in-depth understanding of the venue, users, and environment. In total about 500 operators were interviewed.

**Site Visits:** Identify, visit, and observe six or more venues of each type (library, telecentre, cybercafé, or other). Site visits were undertaken for a minimum of a half day, making sure to include both urban and nonurban sites (ideally three of each). In selecting sites, research teams identified typical case samples of each type of venue. About 500 sites were visited in total across all countries.

**User Surveys:** Collect user information through surveys. A shared survey instrument was used to administer a questionnaire. Each country team added questions that they felt were relevant to the local context, which enriched the overall body of evidence. At each site every second or third user exiting the venue was surveyed. Teams surveyed between 40 and 50 users at each venue, for a total of about 25,000 respondents across all countries. Given limited time and resources, user surveys were not intended to provide statistically significant samples of the population or of the venues studied, but an exploratory indication of trends and patterns for comparison and further research.

### 3.2 Data Analysis

As part of the broad study, we did a detailed interpretive coding of the qualitative data using variables from the ACE Framework for each type of venue (75 variables in total for each type of venue, totaling 225 variables in each of the 25 countries). All coding was done by the lead research team following clear definitions and criteria for each variable. Integrity of the coding was verified through spot checks and partial double-blind coding to minimize distortion and bias in the interpretation. This interpretive coding of the qualitative data is not intended to be statistical in nature but was used to further understand the trends and patterns emerging in the data. Qualitative data from the country reports was then used to explain or illustrate the findings.

After careful reading of all reports and preliminary analysis of the data, we identified and categorized trends in relation to fees; local languages and relevance of information; and staff digital skills and disposition to help users meet information needs. These variables emerged as strongest drivers in users perceptions and preferences to visit one type of venue over another, across all countries.

To assess user affordability of public access venues, findings from each of the 25 countries were coded numerically according to the cost in relation to daily needs in each country in both urban and rural venues based on factors such as the average monthly income.

Coding was done by identifying whether ICT services in public access venues were not affordable to the majority of the population, were only affordable to some of the population, or were free for all to use. In this analysis, only venue fees are examined, not the overall cost of accessing the venue, including transportation costs to get to the venue and not being able to access the venue due to some populations working during hours of operation, which are also important considerations in some contexts.

Analysis was conducted by type of venue (cybercafés, public libraries, and telecentres), as well as by country for each of the 25 countries. Finally, a detailed rereading and discussion of the country reports was undertaken to identify and group trends in the data and significant insights from local research partners in relation to affordability, local relevance, digital literacy, and customer service in the public access venues studied. These are the main categories of findings reported in this paper.

#### 4. FINDINGS AND DISCUSSION

Our research produced findings about what influences the use in public access venues. While many of the factors were independent of the user, such as national and local support and policies for the venue and basic infrastructure of the facilities, many indicators examined in our study focused on user attitudes of ICT use in the venues. Three indicators of user attitudes and perceptions were found to be the most salient in the analysis: cost and affordability of venue, availability of relevant information in local languages, and digital literacy and helpfulness of venue staff. Through this analysis, we seek to paint a clearer picture of what users view as incentives and barriers to their use of ICT in public access venues.

|                | Libraries   | Telecentres  | Cybercafés   |
|----------------|---|--|--|
| <b>Cost</b>    | Not a factor in use<br>Most affordable venue<br><br><i>Exception: Bangladesh</i>  | Not a factor in use<br>Less affordable than libraries<br><br><i>Exception: South Africa</i>                                  | Rarely a factor in use<br>Least affordable venue<br><br><i>Exception: Egypt, Sri Lanka</i>                                 |
| <b>Staff</b>   | Significant factor in use<br>Least helpful; least amount of digital literacy among staff<br><br><i>Exception: Argentina</i> | Somewhat of a factor in use<br>More helpful than libraries; more digital literacy among staff<br><br><i>Exception: Nepal</i> | Not a factor in use<br>Most helpful staff; most likely to have digital literacy among staff<br><br><i>Exception: Nepal</i> |
| <b>Content</b> | Significant factor in use<br>Significant lack of relevant content in local languages<br><br><i>Exception: Argentina</i>     | Somewhat of a factor in use<br>Moderate lack of relevant content in local languages<br><br><i>Exception: South Africa</i>    | Significant factor in use<br>Significant lack of relevant content in local languages<br><br><i>Exception: None</i>         |

**Figure 1: Overview of Barriers Affecting Users' Preference for Public Access Venues**

#### 4.1 Affordability and Cost

Analysis shows that the difference in affordability between cybercafés, public libraries, and telecentres is minimal. Unsurprisingly, the most affordable type of venue was the public library, where cost in relation to daily needs was lower than cybercafés and telecentres: libraries are, for the most part, free. Cybercafés were seen as the least affordable venue, but only slightly less affordable than telecentres. Nonetheless, the differences in affordability from one venue type to another are minimal, while other factors have significantly larger differences across venues. We will discuss those in detail later.

The trend of public libraries being the most affordable public access venue was consistent across most of the 25 countries. One notable exception is found in Bangladesh, where 33% of the users interviewed reported the cost of ICT services in public libraries was not affordable. Public libraries in Bangladesh charge an annual fee, and it is reported that fees are much lower in other venues than libraries. The majority (75%) of ICT users in public libraries fall in the middle-income bracket. Furthermore, in Bangladesh, while public libraries are seen as less affordable than other public access venues, cost was reported as a significant barrier to ICT use by all user populations across venues except in non-urban community libraries (DNet, 2008).

With few exceptions (Bangladesh, Egypt, South Africa, and Sri Lanka), all public access venues (including, of course, public libraries) are seen as affordable, and for the most part, cost is not a significant barrier to ICT use by most user populations. An example of statements echoed in most of the country reports, across all venues, is illustrated succinctly in Brazil's cybercafés: "Cybercafés charge for services (Internet access), but their fees are affordable, as most cybercafés are located in low-income communities and are self-sustaining" (Voelcker, 2008). Fees and cost of public access use do not seem to be a very influential factor in determining venue use. This is corroborated by other ongoing research in which cost is ranked #8 in a list of 10 important variables that drive user's choice of public access venues in a single community (Gomez et al., 2010).

While users do not view cost as a barrier for use of public access venues, it is interesting to point out that operators of the venue may think people are not using the venue due to fees, as indicated in Nepalese libraries and telecentres: "The services offered are quite affordable to the population in general. For high income and Middle Income population, the services are quite affordable whereas for the low income group, the general services as well as Digital ICT services are moderately affordable. Libraries charge a nominal fee for the use of service available in the venue. Whereas 25% librarians believe that the services and technologies are not very affordable to the general public, only 11% of the users, on the other hand feel that the affordability is a barrier for use of services" (SAP International, 2008). Just at librarians in Nepal thought cost was a hindrance to use, although users did not, telecentre staff also believed cost was a barrier, whereas users did not: "Only 1 user of the 13 users surveyed in a telecenter said that cost is a barrier for using the ICT services in the venue. However, none of the users said that cost is a hindrance to using the services in the venue as a whole, which itself proves that the prices offered in telecenters are very affordable to the users. Many operators (nearly 50%) were of the opinion that cost is major hindrance for them" (SAP International, 2008).

The findings of the Landscape Study suggest that public libraries have lower overall ICT use and more negative community perceptions than other venues, so what is influencing user behavior? Let us explore two additional dimensions, other than cost, which appear to drive users' preference for one type of venue over another: venue staff and content availability.

## 4.2 Venue Staff

Many users of public access venues rely on the venue staff to assist them in their information needs and ICT use. The results of our study suggest that a crucial variable that informs users' choice of a public access venue is, more than cost, is the capacity and willingness to help of the venue staff, particularly their digital literacy their willingness to help users employ ICT services offered.

To emphasize the importance of this variable, let us point out that while the interpretive ranks for affordability were fairly consistent across cybercafés, public libraries, and telecentres in most countries, a larger variance is found in the indicators that analyze venue staff preparedness and support. While public libraries are seen as the most affordable public access venue (even though by a small margin), they fall well behind cybercafés and telecentres in regard to the digital literacy of the staff and the willingness of staff to help users. Not much of a difference is seen between cybercafés and telecentres, although the staff at cybercafés are viewed as slightly more ICT literate and helpful than those in telecentres. An example of staff helpfulness and digital literacy can be found in cybercafés in Moldova, as in-country researchers noted, "In Moldova there are many skilled and passionate young operators, who work in such units, even with a modest salary, only to have the opportunity to go in for the hobby. Operators are usually ready to help the visitors. They recommend sites, directories, provide technical assistance etc." (IPM, 2008; OPINIA, 2008).

Public libraries, however, lag behind telecentres and cybercafés in staff helpfulness, as demonstrated in Algeria: "In general, staff of public libraries are supposed to be librarians. This is not always true. Also, even when they are librarians they aren't always good librarians especially when it consists on encouraging people to use services. And even when they are good librarians they aren't always good in ICTs" (Bakelli, 2008).

Most countries showed similar results in terms of staff willingness to help users with their information needs and ICT use, particularly cybercafés and telecentres. However, significant differences were identified in the digital literacy among telecentres and public libraries in a few of the countries. Countries with low digital literacy of staff include Kazakhstan, Nepal, Sri Lanka, and Uganda. In Kazakhstan, while most staff in cybercafés are information technology students and trained in ICT, most public library and telecentre staff have almost no ICT training (PACT, 2008). Another notable exception is the case of Nepal. While 80% of telecentre staff have reported some type of computer training, only 50% of cybercafé staff has engaged in ICT training, and most public and community library staff have not received any computer or technology training at all (SAP International, 2008).

It seems that capacity and disposition of venue staff plays a larger role in use of public access venues than do user fees. Level of digital literacy among staff, as well as willingness to help users, affect the interest of users in choosing one venue type over another. How relevant is the information that venue staff help users access at public access sites? Does the actual content of ICT available play a role in user perception and utilization of a public access venue?

## 4.3 Content Availability

Abundance of digital content is clearly not a problem in today's information age, for those who can read English and live in a wealthy part of town, country, or world. In developing regions where English is not the native language, however, availability of relevant and accessible content may be an issue. In the 25 countries examined through this research, the difficulties of getting to locally relevant content, and especially content available in local languages, is seen as a stronger barrier to ICT use than cost of use or venue staff literacy and helpfulness. It is important to note that while the same content is available on the Internet at any public access location (except for things that are explicitly banned in libraries or in some

telecentres, such as porn or music download sites), this finding emphasizes the importance of users' *perception* of the content that is available at the venues, not the *absolute* value or local relevance of the information. Across venues, public libraries again fell behind in providing users with content they viewed as relevant and accessible in local languages. As with venue staff indicators, cybercafés and telecentres did not rank very differently in this measure. In contrast, however, telecentres were slightly ahead of cybercafés in issues surrounding content. Many telecentres embedded in an organization that provides content-specific community support in areas such as health, agriculture, or small business, which explains this perception of telecentres as providing more relevant content to users.

Country by country analysis of availability of locally relevant content or in local languages revealed the most variance across venues, as opposed to affordability and venue staff indicators. In Georgia, for example, lack of content was seen as the number one barrier by over a third of users surveyed in both public libraries and cybercafés (IPM, 2008). Another country with a considerable lack of locally relevant content in local languages is Ecuador. As in Georgia, users in Ecuador cited lack of relevant materials in languages accessible to the local population as the main barrier to use of ICT services in public access venues (Bossio & Sotomayor, 2008).

The lack of relevant and comprehensible content is noted across cybercafés, public libraries, and telecentres, but is especially so in public libraries, with 75% of users indicating content as the main barrier (Bossio & Sotomayor, 2008). Two other countries that face significant challenges in having relevant and language accessible content are Dominican Republic and Indonesia, across all venues. For example, in the Dominican Republic, it is noted that telecentres have not invested the time or resources into creating and disseminating locally relevant content: "Still, an existing void is the lack of other relevant content, since telecenters have focused their attention on digital alphabetization, and development of specific contents that may answer to community problems (health, unemployment, teen pregnancy, AIDS, sexual exploitation, drug addiction, sewage handling, amongst others) has been left aside" (Alfaro et al., 2008).

Libraries and cybercafés in the Dominican Republic face similar challenges, particularly in content availability in local languages. While there are some materials in Spanish, Creole is also widely spoken and read in the Dominican Republic, and the Internet interfaces, digital content, and books do not reflect this: "Finally, it is important to consider books in Creole when offers are presented. None of the libraries have anything on this language. There is no mass media –newspapers, television news, radio programs- on Creole. Therefore, it is essential to introduce Creole in the libraries in order to guarantee the right to have information in a democratic way" (Alfaro et al., 2008).

One exception in terms of relevant content in local languages can be seen in Argentina, particularly in libraries, where there is very high use and satisfaction with the content meeting users' information needs. Many libraries in Argentina participate in the Citizen's Information Program, which has created an information base for the community (Rozengardt & Finkelievich, 2008). Through the Citizen's Information Program, which is disseminated through library websites and CD-ROMs in libraries not connected to the Internet, users can find information about their citizen rights, government services, health information, cultural information, and community participation (Rozengardt & Finkelievich, 2008).

#### **4.4 Limitations of this Study**

This study is groundbreaking in its breadth and scope in that no other studies have systematically looked at different types of public access venues and across multiple countries around the world. Nonetheless, the breadth of the study also means that this study does not

provide an in-depth analysis of a particular venue, country, or experience, and findings cannot be easily generalized without a clear understanding of the specific context and the analytic framework used.

The data about public libraries is generally the most reliable, as there are public records in most countries and international bodies that work with libraries (i.e., the International Federation of Library Associations and Institutions and UNESCO). When available, these official sources were used. Information about telecentres is more dispersed among international agencies and local nonprofit organizations that sponsor them. Information regarding cybercafés and, to a lesser degree, telecentres, tends to be an informed estimate, sometimes the result of “educated guesses” on the part of the researchers, based on what they learned about those particular venues and the context in the country.

The survey sample was not intended to be statistically representative but to provide a useful indication of trends. It was done using a common survey instrument, translated and adapted to meet the needs of each context. This allowed for more flexibility to adapt to local contexts, but reduced the comparability of the results. While the details discussed here may not be an exact reflection of any single country, combined across all 25 countries they represent a meaningful source of trends and patterns in public access ICT venues.

## 5. CONCLUSION

This paper presented the analysis of findings of the 25-country study of user fees, staff helpfulness and digital literacy, and availability of locally relevant content. While some exceptions were apparent, our findings indicate that user fees do not hinder use of public access venues, as they are not seen as unaffordable, and the presence (or absence) of fees does not affect venue use. More poignant in user uptake of ICT services in public access venues are issues surrounding the digital literacy and helpfulness of venue staff and relevancy of content availability. In order to encourage use and appropriation of ICT services in public access venues, developers and managers of these projects and organizations should focus their efforts on increasing staff ICT literacy, overall skill capacity, and motivation to help users meet their information needs. Many users of public access venues do not have extensive ICT training and using computers is often new to them. The role of staff in helping the users use the ICT services to successfully retrieve information needed and desired is critical to the use and success of public access venues. In order to meet their information needs and desires, however, public access venues also need to offer services and content that is appropriate and relevant in the local context.

The implications of these findings are of critical importance to telecentres, and especially to public libraries. These two types of public access venues have a social mission that is not necessarily shared with cybercafés, but cybercafés tend to be more successful in both meeting local needs of users. Users tend to perceive cybercafés as offering relevant content and good customer service and support, even though they charge user fees. Users also tend to perceive libraries as outdated and irrelevant to their local needs. Telecentres and public libraries face important sustainability challenges, with decreasing public or donor funds for public access ICT initiatives. In this way, libraries and telecentres may have the opportunity to strengthen their mission by focusing on improving staff digital literacy and customer service to meet local needs, and they may want to explore ways of generating revenues through user fees. More relevant content and support service may drive more users to libraries and telecentres, and if they get content and services right, user fees may not drive users away. In *The ICT4D 2.0 Manifesto: Where Next for ICTs and International Development*, Heeks calls for the users of ICT to be the producers and innovators of content and services available to them (Heeks, 2009, p. 28). Instead of using the common top-down approach that infuses ICT venues with information coming from the North, venues should

concentrate on addressing users' actual information needs and wants that are relevant to them. If the content available in public access venues is not relevant or in a language that can be understood, and if the service and support offered does not meet the needs of the local population, the venue and ICT services will remain unused.

Further research could explore how enhanced staff training and integration of locally relevant content affects venue use and uptake, and assess whether venue sustainability increases. This could be done cross-venue, or in a subset of specific venues.

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