

# **Community Engagement & Infomediaries: challenges facing libraries, telecentres and cybercafés in developing countries**

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## **ABSTRACT**

Effective infomediaries and community engagement can produce a successful environment to service information needs for underserved populations. This paper analyzes data from libraries, telecentres and cybercafés in 25 developing countries, to assess how infomediaries and community engagement help support the social mission of venues that offer public access to information and communication technologies (ICT). Our results show that while infomediaries and community engagement are critical to facilitate access to information for underserved communities, cybercafés are thriving as public access venues without very strong infomediaries or community engagement, and yet they are perceived as being well staffed and serving community needs. Telecentres and, in particular, libraries, face a particular challenge to fulfill their social mission in the face of the proliferation of cybercafés: they must provide access to ICT, train their staff to be digitally literate and able to support the ICT needs of their communities, and ensure that their community engagement activities include ICT as part of their tools and services.

### **General Terms**

Human factors, Performance

### **Keywords**

telecentres, libraries, cybercafés, public access computing, infomediaries, community engagement

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*iConference 2010*, Feb 3-6, 2010, Urbana-Champaign, Illinois, USA.

## **1. INTRODUCTION**

Three steps are required to serve a population's information needs: understand the population's culture; include someone in the decision-making process who understands the population; and receive direct input from the population from project inception. Gethering user's input enables and involves them in accessing information and solving their information needs in ways that are personally relevant (Bridges.org, 2009).

In this paper, we report findings from a study of information and communication technologies (ICT) used in public venues such as libraries, telecentres and cybercafés in 25 developing countries. Based primarily on qualitative data collected with a common methodological approach across all 25 countries, this study offers insights into how libraries, telecentres and cybercafés use infomediaries and community engagement to fulfill the information and communication needs of the communities they serve.

The remainder of the paper is organized as follows: In the next two sections we present a literature review and a description of the methodology used in this research. This is followed by findings and discussion around two topics: infomediaries and community engagement. The paper concludes with a discussion of the implications of the findings. We also identify questions and issues for further research.

## **2. LITERATURE REVIEW**

Most published research on information and library science is pertinent to ICT access in public libraries, and to a lesser extent, in telecentres. Cybercafés have emerged as an important venue in providing public access to ICT for community information needs, although they have received little study concerning the role of infomediaries and community engagement in the success of ICT in public access venues for community development.

In a broad literature review on ICT impacts, Sey & Fellows (2009) pointed out that infomediaries “have been found to be important contributors to the viability and sustainability of a public access venue”. The idea is not new. In his study of knowledge and information systems of urban poor, Schilderman (2002) suggested “social networks are the foremost source of information of the urban poor.” The poor tend to believe people they trust rather than perhaps more informed contacts with which they do not have close ties. He identified successful ways to meet information needs of urban poor, including involvement of the poor themselves as equal partners, building on local knowledge, use of community-based communication methods, and building the capacity of community based organizations and key individuals within them.

We use the term *infomediary* in a similar way to gatekeepers (Metoyer-Duran, 1993), key informants (Schilderman, 2002), lay information mediaries (Abrahamson & Fisher, 2007) or boundary spanners (Mason, 2003). These authors utilize these terms to refer to a liaison or broker between an individual or group of persons and a group or source of information. We prefer *infomediary* to emphasize the role of brokering or transferring information in a culturally appropriate manner, by taking into account the norms of each group of people they connect.

*Community engagement* is the ability of community members to work together to achieve shared goals. Bieber et al. (2007) discussed community engagement with three main activities: 1) defining the community; 2) collecting new or existing information in collaboration with community members; and 3) assessing the community’s capacity. Similarly, Ballantyne (2002) suggests “foreign content must be matched by the expression and communication of local knowledge that is relevant to local situations... Local content is the expression of the locally owned and adapted knowledge of a community – where the community is defined by its location, culture, language, or area of interest.” He emphasized the need for infomediaries to “adapt and synthesize” the information “so that the external content is translated, transformed, and adjusted to suit local situations.” An important aspect of community engagement is the ability to produce local content, as discussed by Talyarkhan et al.

### 3. METHODOLOGY

Our global study needed a common structure and approach to data collection for comparability of results, While retaining flexibility to adapt the research process to the needs and possibilities of each specific context.

#### Selection of countries

Of 237 possible countries and territories in the world, the final 25 countries (Algeria, Argentina, Bangladesh, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, Egypt, Georgia, Honduras, Indonesia, Kazakhstan, Kyrgyzstan, Malaysia, Moldova, Mongolia, Namibia, Nepal, Peru, Philippines, South Africa, Sri Lanka, Turkey, Uganda) went through a selection process that used 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<sup>1</sup>, degree of freedom of expression<sup>2</sup> and political unrest<sup>3</sup>, a measure of “needs and readiness” criteria<sup>4</sup>, regional representation, and quality of country research teams. For a more detailed description of the country selection process and rationale see Gomez (2009).

#### Research Framework

An iterative research design was conducted in two phases. The emergent insights and discussions from Phase 1 guided and sharpened the focus of Phase 2. From the outset, we identified a framework – Real Access – developed in South Africa by Bridges.org. We adapted and refined Real Access, resulting in the Access, Capacity and Environment (ACE) Framework, and structured it as 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 this 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.

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<sup>1</sup> Size (exclude largest and smallest), population (exclude countries with population less than 1 million, and exclude highest population (India, China)), per capita income (exclude countries with per capita income over \$11,116), human development index (HDI below 0.5)

<sup>2</sup> Based on Freedom House index: <http://www.freedomhouse.org>.

<sup>3</sup> Based on U.S. Dept. of State travel advisories.

<sup>4</sup> **Needs criteria**: Income inequality based upon Gini index (2006) from United Nations Development Program; ICT usage: based upon CIA World Factbook (2007); ICT cost: based upon International Telecommunications Union’s World Information Society Report (2006). **Readiness criteria**: Politics: based upon World Economic Forum Global Information Technology Report (2006), Transparency International (2007), World Bank Worldwide Governance Indicators (2006); Skills: based upon International Telecommunication Union opportunity skills index (2007); ICT infrastructure: based upon International Telecommunication Union opportunity network index (2007).

## Data Collection

Nineteen local research teams were chosen following an international call for proposals. Each team conducted research in local languages, using document reviews, expert interviews, site visits, user surveys, operator interviews, and, in some cases, additional data gathering activities. Detailed country reports were prepared by each research team using a 70-page data-collection template to answer detailed questions about Access, Capacity and Environment issues in each type of venue studied. The use of a common research design and methodology helped make data more comparable, even though the specific ways in which data was collected varied from one country to another in order to make it more locally relevant.

## Data Analysis

After careful reading of all reports, we did a detailed annotation of success factors as they were represented in the data. During a facilitated workshop and several group discussions, findings were analyzed, grouped, and categorized, which led to the formulation of the key factors described in this paper.

## Limitations of this Study

This study is groundbreaking in its breadth and scope; no other studies have systematically looked at different types of public access venues across multiple countries. Nonetheless, the breadth of the study also means that it 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.

While the flexibility to translate and adapt the data collection tools to the needs and requirements of each country makes the study more locally appropriate, variations in the way data was collected or presented also makes the comparison of results across countries more problematic. The details discussed here may not be an exact reflection of any single country, but combined across all 25 countries the results represent a meaningful source of trends and patterns about success factors for public access ICT venues.

## 4. FINDINGS & DISCUSSION

A review of the 25 countries showed public access venues that were most successful at meeting local information needs of underserved communities often contained one or both of two important features: strong infomediaries and/or strong community engagement. These features are experienced differently in each type of venue.

Our findings must be placed in the context of the relative number of each type of venue studied: across all 25 countries, only 12% of the venues are libraries, and 12% are telecentres. Cybercafés account for almost 75% of all public access venues (the balance is a very small proportion of “other” types of venues), according to the results of this study<sup>5</sup>. Accordingly, in terms of public access, the relative weight of cybercafés is three times higher than that of both libraries and telecentres combined. These numbers are important to keep in mind when making programming decisions in both libraries and telecentres, which tend to have stronger infomediaries and community engagement activities than cybercafés.

While infomediary work is generally considered a strong component of the library services, i.e., the role of librarians for helping users find information, libraries tend to have more limited ICT services and their staff is generally not well trained to use ICT tools when they are available. Users put more value in the infomediary role of telecentre and cybercafé operators than that of librarians, because the former are perceived to offer more effective help with ICT tools and services.

Community engagement is a strong feature of community libraries and telecentres. Although community engagement as a purposeful activity is virtually nonexistent among cybercafés, these venues tend to be perceived as meeting local needs more effectively than libraries. A common exception to the popularity of cybercafés is found where there is strong community orientation, ownership and management of the community libraries, as in Argentina, Uganda and Nepal.

### Infomediaries in public access venues

Infomediaries can be formal or informal liaisons between communities. A formal infomediary might be a librarian or telecentre/cybercafé operator who has a paid position within the venue. Their job is to reach out to an underserved community, perhaps providing language bridges, literacy connections, needs links, or leadership associations. Equally important are informal infomediaries who may supply similar links, but through different means (e.g., a child to a parent or vice versa, language translators, or unofficial connections between communities). Infomediaries can act on multiple levels: at a community level, between communities (or a community and a venue); as well as at an individual level, between a user and technology. In this paper we focus specifically on formal infomediaries, and we contrast their

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<sup>5</sup> While the numbers for libraries tend to be fairly reliable, the numbers for telecentres and, especially, cybercafés are estimates by local researchers. Estimates about number of cybercafés vary widely and are extremely difficult to corroborate, given their informality, lack of organizing body, and quick turnover.

role in libraries with their role in telecentres and cybercafés.

#### *Libraries:*

Of the libraries studied, 44% do not offer ICT access to the public. Libraries that do offer ICT access generally do not have digitally literate librarians (trained to use or help users with ICT tools). These factors were prevalent in the majority of the libraries studied, which strongly influences users' negative perceptions about the utility of libraries to meet community needs. This also created negative perceptions concerning the utility of the skills offered by librarians to act as infomediaries for members of the community. We found this 'digital gap' in libraries is successfully bridged when libraries are proactive in meeting community information and communication needs. When libraries are successful at becoming active social and community resource centers, the 'digital gap' of infomediaries in libraries is less apparent than when libraries are only venues that provide access to books and other non-digital resources.

Our study documented numerous practices of infomediaries in libraries in the countries we studied. The following are some typical examples of successful infomediaries in libraries.

Sixty Riecken Foundation Libraries in Central America operate in Honduras and Guatemala. These privately funded libraries began as democratically run community centers for local involvement. Their hallmark is community participation in both the set-up and sustainability of the venues. Because the communities are involved and locals are on the board of directors, emphasis is placed upon local needs and the long-term goals of the community. Library board members develop mission statements, hold elections, and establish library policies. The libraries function as places for people to gather, providing information, entertainment, and socialization. One of the librarians must be an educator from the community. The libraries focus on providing support to people who don't know how to use the information sources, which requires the librarian to act as an infomediary (Arias & Camacho Jiménez, 2008a).

Two publicly-funded information centers in Sri Lanka use intermediaries to disseminate information to groups that lack information literacy: Vidatha Resource Centres and Rural Agricultural Knowledge Centres. These centers disseminate content generated by national research institutes that help to improve quality of life for low-income families, through an increase in productivity and income. "Leadership was a critical factor in the success or failure of venues in achieving their primary objective of meeting the information needs of the communities they serve. Operators that had superior leadership qualities had overcome resource constraints to a great extent and their

innovativeness had drawn the communities to the venue to use its service. It was seen that empathy, adopting a participatory approach to the development of the venue, establishing a mechanism to get feedback from the community, and forging links and cooperating with agencies that generate information that is vital for the people are factors that contribute to success in meeting the information needs of the people" (Wanasundera, 2008).

In Uganda, non-profit organizations and foreign agencies established community libraries that target particular sections of the community by providing space for meetings and socialization. The librarian lives in the community and identifies and provides for local information needs in a way best suited to the users. For example, community libraries that serve the primarily rural agricultural communities in Uganda, collect agricultural literature from NAADS (National Agricultural Advisory Services) for local distribution. (Ndaula, 2008).

While the above are fairly typical, a unique example of a national library that serves the community with ICT despite its limited infrastructure is the National Public Library in Tegucigalpa, Honduras. Because computers in this library don't have Internet access, the Library Chief conducts Internet searches on her home computer and presents the information to the users on the following day. She files copies of frequent requests in the library archives in order to respond to similar questions in the future (Arias & Camacho Jiménez, 2008b)

Despite these examples, the users across all 25 countries have a somewhat negative perception of the role of librarians as infomediaries. This trend is exacerbated by growing interest in accessing ICT in public venues. Libraries have comparatively less ICT infrastructure, connectivity and digitally trained staff than cybercafés and telecentres. Despite a long tradition of library information services to the public, with trained librarians and staff (limited as this training may be in most contexts we studied), libraries are perceived as falling behind both telecentres and cybercafés as public access venues offering meaningful infomediary service.

#### *Telecentres:*

Telecentre operators are well documented as infomediaries (Benjamin, 2000; Bossio, 2004; Delgadillo, Gomez, & Stoll, 2002; Gomez & Hunt, 1999; Jensen & Esterhuysen, 2001; Parkinson, 2005; Proenza, Bastidas-Buch, & Montero, 2002; Rajalekshmi, 2007), yet we found little evidence of successful telecentres infomediaries, especially when compared to reports about library infomediaries. The few reports about infomediaries in telecentres tend to be positive,

particularly with agriculture or health information. Typical examples telecentres infomediaries follow.

The Telecentros de Porto Alegre program coordinates 35 ICT access points in the region of Porto Alegre, Brazil, are located in community centers and encouraging partnerships with local communities. The facility and utilities are paid for by the community center, while the government pays local youth to provide assistance and maintenance for the computers and Internet. The collaborative effort of government and community contribute to the program's continued success (Voelcker, 2008). Other organizations facilitate a youth training program, also contributing to serving community interests.

Similar projects are successful in the Dominican Republic, where local youth are involved (Alfaro, Molina, & Camacho Jiménez, 2008). The Knowledge and Communication Community Center in Morocelí, Honduras acts as both an ICT access center and a gathering place for youth. The center "offers workshops with every member of the community in mind" (Arias & Camacho Jiménez, 2008b). Because many members of the community don't know how to use the Internet, they often ask children who visit the Center for help, encouraging youth to act as infomediaries. The researchers emphasize the importance of mentoring to enhance information approachability in these venues, helping users understand how the venues are personally applicable (Arias & Camacho Jiménez, 2008b).

The Pallitathya Kendra telecentre in Bangladesh provides infomediaries who travel through the community collecting questions (mobile infomediaries). Back at the center they consult professionals and the content database, then provide answers to inquiries. The infomediary also supplies feedback to the parent telecentre office, which helps to add new content and improve quality (Development Research Network (D.Net), 2008)

#### *Cybercafés:*

Cybercafés receive little attention in research literature compared to libraries and telecentres, particularly in relation to the role of infomediaries. In our study there is little evidence that cybercafé operators are successful infomediaries. Nonetheless, a few exceptional cybercafés are worth mentioning.

In Algeria, as other countries where gender roles are sharply differentiated by religion and social restrictions, female operators are preferred and more trusted as infomediaries. Local researchers reported the majority of the users "said that they are satisfied by the cybercafé especially because Faiza [the telecentres operator] is a very sympathetic lady, there is no stress and there is a print service. They also insist on a fact that Faiza is suggesting a guide of websites. When we ask them to

mention all factors that motivate them to use a cybercafé they answer: 'the manager is a lady.' (Bakelli, 2008).

Researchers in Costa Rica report that in cybercafés "it is common to find youths exchanging information about picture uploading, music downloading, templates, layouts, and other tools related to Web 2.0. Although many people do not have the capacities to fully utilize the ICT tools offered in cybercafés, other users and operators help to develop their capacities at least in basic issues (such as e-mail, chat, and information download)" (Sanchez González & Camacho Jiménez, 2008, p. 114).

Cybercafés tend to digitally-literate staff that help users with basic ICT needs. Even if this support is limited, it is valued by users. Across all countries, we found cybercafés are perceived to have higher staff ICT capacity than telecentres and, especially, libraries. Cybercafés are market-driven, therefore more inclined to meet user needs. As specialists in ICT tools and connectivity they tend to support ICT tools and services. Cybercafés are not necessarily driven by a social mission, in contrast to telecentres and libraries, so users' expectations of infomediaries in cybercafés may be far lower than in other public access venues.

In sum, public access venues tend to offer many of the features described by Schilderman for infomediaries: (1) capacity to provide information in an accessible format; (2) willingness to share information; (3) ability to get hold of information and adapt it to a local context; (4) experience, education, knowledge and reliability; (5) accessibility, proximity and helpfulness; (6) social sensitivity and capacity to involve residents; and (7) leadership qualities, influence and moral authority (Schilderman, 2002). Nonetheless, users of ICT in public access venues seek support to use ICT tools and services; this support is offered more effectively in cybercafés. Libraries and telecentres maintain a social development mission, and their staff offers, or is expected to offer, more complex infomediary services, in line with the attributes described by Schilderman. Libraries have a bigger 'digital gap' to fill, and users perceive them as the venues with the least staff capacity, training and disposition to meet local needs.

#### **Community engagement in public access venues**

Community engagement of the local population determines the content and services an information venue provides, ensuring the local needs and priorities are addressed.

Our study shows the importance of community involvement for the success of public access venues, especially in community libraries and in telecentres. While cybercafés have few proactive community engagement plans, telecentres and community libraries

often engage community stakeholders in the definition, management and direction of the venues.

According to researchers in Costa Rica, positive results for public access venues depend on increasing human investment by analyzing community information processes, understanding how and why people look for information, the processes involved, who is involved, and what practices are used. (Sanchez González & Camacho Jiménez, 2008)

Argentina illustrates successful community engagement in what are called popular libraries. These libraries are a unique feature in Argentina. They were created by associations of individuals with a dual support system: citizen participation and the governmental Protective Commission of Popular Libraries (CONABIP), which helps create and maintain these institutions. Researchers in Argentina considered both public libraries (centrally supported and funded) and popular libraries in their analysis of libraries as public access venues in that country (Rozengardt & Finkelievich, 2008, p. 71).

Other community based organizations succeed where particular topics or livelihoods bring a community together. The people of the Huaral valley of coastal Peru depend upon water resources to support their agricultural livelihoods. Water resource management and irrigation infrastructure was developed by a small farmers' organization with the help of a local telecentre, which helped to install eleven agrarian information system telecentres in rural communities. The web-based system provides information on water management and cultivation monitoring in the Huaral valley and surroundings. This local community based organization was crucial to achieve success and sustainability. The community helped shape the project, adapt it to the changing environment, and influence policy makers. This project is now being replicated in other valleys in coastal Peru (Bossio & Sotomayor, 2008b).

In South Africa the AIDS/HIV community centers address important community health concerns and build strong community engagement that strengthens their role as public access venues. The centers are near target communities, such as orphans, vulnerable children, or people affected with HIV/AIDS. Many community-based organizations evolve within affected communities. Given the focus on HIV/AIDS, the information tends to be specific and relevant to the needs of the target communities. No access fees are charged at the centers. Information intermediaries are often needed to bridge the gap between technology usage and disadvantaged communities (James, 2008).

Nepal encourages rural communities to become involved and create centers for literacy and social empowerment. Community owned libraries function as social centers and

community resource centers. In these venues, community members gather to discuss different issues ranging from civil liberties to human rights. Programs are conducted on health awareness, community development and empowerment.

## 5. CONCLUSION

Infomediaries and community engagement are critical factors in the success of public access venues offering ICT tools and services with a community development orientation. The community development orientation is an important distinction for libraries and telecentres, which have stronger infomediaries and community engagement. Commercial cybercafés are more numerous but have fewer infomediaries and lack community engagement as part of their mission.

Infomediaries in libraries and telecentres in the countries we studied play an important role in helping to provide and share information in ways that is accessible and useful in the local context, and have a level of education, credibility and helpfulness valued in local communities. Infomediaries in libraries tend to be part of a 'digital gap', as libraries lag behind in offering public access to ICT. Library staff were often unprepared to use or offer support in ICT use in the majority of the public libraries offering ICT. Users increasingly seek ICT access in public access venues, and the 'digital gap' shapes a perception of libraries with the least staff training, preparation and disposition to help meet local needs.

Cybercafés, on the other hand, play a simpler role than libraries or telecentres. In cybercafés operators are expected to serve as infomediaries, and help users with basic ICT use. Cybercafés tend to fulfill this expectation quite well. Thus, users perceive cybercafé staff as skilled and helpful with local needs.

Community engagement, on the other hand, is a critical component of the success of community libraries and of telecentres. Through effective community engagement, these venues become active hubs at the center of community life and information needs. When successful, these public access venues are truly owned and managed by the community they serve, and they become an integral part of local development and transformation. Nonetheless, libraries tend to carry an 'aura of irrelevance' to today's information needs, while cybercafés tend to enjoy an 'aura of relevance' that, combined with their superior numbers, gives users of cybercafés a strong sense of meeting community information needs.

The implications of these findings are threefold:

- (1) In addition to offering information services, libraries need to reduce the 'digital gap' in relation to telecentres and cybercafés, by offering

public access to ICT, and transform their 'aura of irrelevance' in public perception.

- (2) Libraries need to complement the infomediary skills of librarians and staff with digital literacy skills in order to offer ICT support and assistance. This will come closer to satisfying the information needs of communities that are shifting to ICT as communication tools and sources of information for their community needs.
- (3) While libraries and telecentres are not the main source of public access to ICT, they are the main source of relevant infomediaries and community

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engagement. The social mission of libraries and telecentres would benefit if these venues strengthen their ICT infrastructure and services, but more so if their infomediaries are digitally literate and their community engagement takes full advantage of ICT tools and services.

More research is needed to assess opportunities for libraries and telecentres to collaborate with cybercafés, especially by offering them the support of digitally trained staff to perform important infomediary functions, and by assuring ICT services available in cybercafés are more meaningful to ensure community engagement, and help solve problems.

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