Brazil

Overview

Brazil is a very large and diverse country, which creates unique challenges with regard to public access to information and communication technology. The country is working hard to meet these challenges. Even though it has a high level of needs, this is matched by an even higher level of readiness. Much work remains, however, such as raising the country's functional literacy rate. Improving public access to ICT might help achieve this objective.

PUBLIC ACCES LANDSCAPE	
Challenges ahead	Slow gains
Needs	High
Needs (rank)	8/25
Readiness	High
Readiness (rank)	4/25

Findings

This regional, political, and demographic context influences the information and communication technology (ICT) landscape in several ways. For example, the huge size of the country and other geographical barriers like the Amazon Rainforest make it difficult to reach underserved people. By contrast, Brazil's high urbanization rate—which is over 90 percent in some regions—hinders physical access to government resources and initiatives, including ICT infrastructure. Regional diversity also reduces the effectiveness of generalized policies and initiatives.
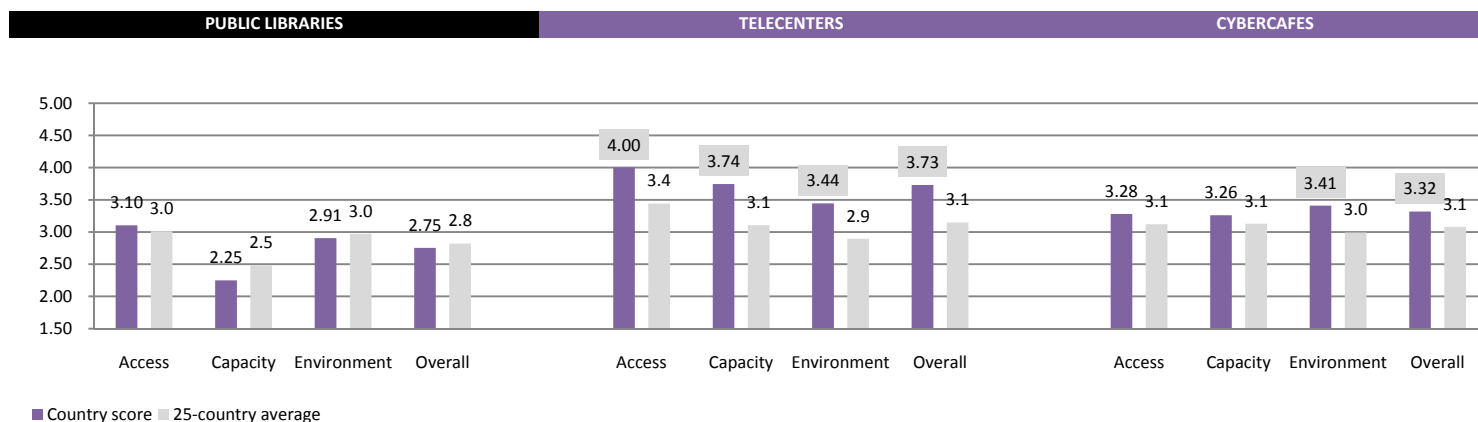
Still, access to ICTs in Brazil is being created and enhanced through public policies, private initiatives, and telecommunication industry agreements with the government. E-government services are available and growing, and content in Brazilian Portuguese is available on the Internet.

Brazil has also embraced NGO-driven social movements and continues to look to telecenters to improve ICT access and capacity. Currently, most programs with the resources to create telecenters originate mainly in NGOs or grassroots organizations. NGOs have increased in quantity and quality and meet many social needs, although these projects have serious sustainability and funding problems. The emergence of cybercafés run by small entrepreneurs in low-income communities has increased, and their success hinges on continued investment in the private sector.

Other key observations include:

- While increases in ICT access have been observed across all socioeconomic classes, access remains skewed toward the more privileged classes. Large numbers of people in Brazil lack the capacity to use ICTs effectively. The quality of public education is inadequate, producing many who are functionally illiterate.

- Education and age significantly influence public ICT access. For instance, most users had a high school education or less; only 27 percent had university degrees. In terms of age, most public

ACE Scores

PUBLIC LIBRARIES	TELECENTERS	CYBERCAFES

Legend: ■ Country score ■ 25-country average

Public Libraries: Access 3.10 / 3.0; Capacity 2.25 / 2.5; Environment 2.91 / 3.0; Overall 2.75 / 2.8
Telecenters: Access 4.00 / 3.4; Capacity 3.74 / 3.1; Environment 3.44 / 2.9; Overall 3.73 / 3.1
Cybercafes: Access 3.28 / 3.1; Capacity 3.26 / 3.1; Environment 3.41 / 3.0; Overall 3.32 / 3.1

Shaded data points are outside standard deviation for 25-country set
See the last page for country-specific definitions of these venues
See the last page for a definition of the ACE scoring framework

Venue Distributions

	ALL PUBLIC ACCESS			PUBLIC LIBRARIES			TELECENTERS			CYBERCAFES			OTHER VENUES		
	Total urban & non-urban	25-country average	25-country median	Total urban & non-urban	25-country average	25-country median	Total urban & non-urban	25-country average	25-country median	Total urban & non-urban	25-country average	25-country median	Total urban & non-urban	25-country average	25-country median
VENUES	76,448	10,017	5,489	5,097	1,111	1,062	13,351	1,273	366	58,000	8,693	3,225	0	398	46
number with ICT	72,116	9,802	5,122	765	349	96	13,351	1,149	257	58,000	8,507	3,251	0	146	13
% with ICT*	94%	98%	87%	15%	31%	20%	100%	90%	100%	100%	98%	100%	NA	37%	92%
% OF PUBLIC VENUES	100%	100%	100%	7%	11%	20%	17%	12%	11%	76%	73%	67%	0%	4%	1%
POP. PER VENUE ('000)	2	8	5	37	93	37	14	205	68	3	52	9	NA	419	103
with ICT ('000)	3	15	6	248	2,093	208	14	242	119	3	62	10	NA	1,354	198

NA=Not applicable
See the last page for country-specific definitions of venues
* For public libraries, country research team noted that the percent with ICT was <15%
Data points are missing for some measures in some countries, which can result in oddities when comparing rows of data (for instance, the average number of venues with ICT appears high compared to the average number of venues). For a complete overview of comparative country data, please see the summary paper for this study.

User Profiles

		PUBLIC LIBRARIES				TELECENTERS				CYBERCAFES			
		Urban	25-country average	Non-urban	25-country average	Urban	25-country average	Non-urban	25-country average	Urban	25-country average	Non-urban	25-country average
INCOME	Low income	ND	28%	ND	35%	ND	26%	ND	24%	ND	26%	ND	24%
	Medium income	ND	54%	ND	46%	ND	56%	ND	45%	ND	56%	ND	45%
	High income	ND	7%	ND	6%	ND	9%	ND	4%	ND	9%	ND	4%
EDUCATION	No formal education	0%	3%	ND	2%	0%	5%	ND	6%	0%	5%	ND	6%
	Only elementary	0%	16%	ND	21%	8%	14%	ND	13%	8%	14%	ND	13%
	Up to high school	23%	50%	ND	36%	46%	37%	ND	32%	33%	37%	ND	32%
	College or university	77%	28%	ND	19%	46%	40%	ND	28%	58%	40%	ND	28%
AGE	14 and under	0%	12%	ND	15%	0%	9%	ND	14%	0%	9%	ND	14%
	15-35	57%	72%	ND	51%	92%	74%	ND	57%	69%	74%	ND	57%
	36-60	43%	12%	ND	23%	8%	12%	ND	8%	31%	12%	ND	8%
	61 and over	0%	2%	ND	2%	0%	0%	ND	1%	0%	0%	ND	1%
GENDER	% female	93%	53%	ND	49%	62%	39%	ND	39%	46%	39%	ND	39%

ND=No data
Percentages may not add up to 100% in all cases
See the last page for country-specific definitions of these venues
Data collected through interviews conducted by research teams. See country reports for details with regard to methodology, locations, timing, and data collection issues.

access users are younger people, but some Brazilian states forbid unaccompanied children under 12 from visiting cybercafés.

- All of the venues studied offer few services to address the capacity gap. Most users view public access venues as sources for communication rather than for information. Even libraries do not attract many users, though insufficient budgets and local culture are partly to blame for the lack of services.

Recommendations

The study revealed a number of weaknesses in the ability to access public information, such as the inadequacy of the public library system, but it also revealed new strengths, such as the expanding role of cybercafés and the opportunity for increasing collaboration among venue types. There is a strong need to place ICTs in underserved communities, and many ongoing ICT projects have not set clear goals. Additional ICT access studies are highly recommended.

ICTs can also be a valuable resource to stimulate academics. Despite the educational challenges, the high levels of illiteracy, and the poor results in national and international educational assessments, the use of ICTs—however simple— can play an important role in serving the people. There is an untapped opportunity for using public information access venues equipped with ICTs to stimulate learning in Brazil's underserved populations. ICTs are an excellent tool to transform the public's ability to think creatively, communicate effectively, and work interactively.

Other key recommendations include:

- Public access ICT venues need to be more community-oriented by tailoring their activities to local populations.

- Create module-based ICT courses to be offered by cybercafés or telecenters. Cybercafés could offer the courses as a paid service, and courses in cybercafés would help free them of their association with gaming and increase sustainability by attracting more young people, as well as adults searching for information or qualification.

- More libraries are needed, either in NGO-based telecenters or by creating smaller public library branches.

- Given the government's emphasis on IT laboratories in schools, opening up access to these venues during non-school hours would greatly enhance their social benefit. All urban schools in the country are projected to have a broadband equipped laboratory by 2010, and there is an opportunity to dramatically expand ICT access to underserved populations without investing in additional programs.

Geography & Economy

Brazil is the largest country in South America, and the fifth largest in the world with a land area of 8.5 million sq km and a population of nearly 190 million. Most of the country is covered by the Amazon Rainforest, which despite intensive deforestation remains the largest forest in the world and possesses 20 percent of the world's biodiversity (in the Amazon Basin and the Pantanal wetland).

Most Brazilians live in the country's eastern and Atlantic coast urban centers—São Paulo, Rio de Janeiro, Salvador, Belo Horizonte, and the capital city of Brasilia. The country is divided into 26 states in five regions, each with its distinctive geography, economic activity, and culture. Brazilian culture is an amalgam of indigenous, European, and African elements, all which are evident in the language and culture. While most share a common language (Portuguese), there are also demographic, economic, social, and educational inequities along these cultural and regional lines.

One-fourth of Brazil's population lives in poverty, and recurrent drought has crippled agricultural development and forced many Brazilians to migrate to the southern region, the country's most urban, well-developed, and industrial area.

COUNTRY PROFILE	
Total population* (millions)	189.3
Urban population* (millions)	160.3
Literacy (%)	88.2
E-readiness	5.45
Gini	0.58

*World Bank 2006 data

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About this study

CIS's Public Access Landscape Study examined how people around the world access and use information and computers in public settings such as libraries, telecenters, and cybercafes. Understanding public access is particularly important in developing countries where there is often limited private access to information and communication technologies (ICTs).

This study covered a carefully-selected sample of 25 developing countries containing over 250,000 public access settings. Local research teams surveyed over 25,000 people and conducted interviews and focus groups in order to develop a detailed picture of the public access ICT landscape in each country. CIS collected, interpreted, and analyzed these detailed county-level results, and also conducted cross-country comparative analyses to uncover common themes, challenges and opportunities.

The goal of this work is to help strengthen public access to information and ICTs around the world.

This project was conducted in two phases. During the first phase, country-based research teams prepared draft reports describing the information access landscape, presented a national assessment, and compiled a preliminary set of recommendations. In the second phase, teams identified the principal locations where people seek information: public libraries, cybercafés, telecenters, and other locations (such as private and religious libraries).

Local research teams used a combination of research methods to: (1) observe how people access information; (2) conduct surveys in information venues where they interviewed operators and users; and (3) perform secondary research and analysis of existing reports and documents using both local and international sources. Teams combined site visits and interviews to review the physical infrastructure and human resources of a variety of venues, and to determine the information content, service usage patterns, communication, and knowledge development. Additionally, teams examined the effects of environmental factors such as government policies, geography, and ethnic and linguistic differences.

Definitions

ACE scoring framework: Developed by CIS based on a modified bridges.org Real Access framework. The scale goes from zero to five, with 5 being the best possible score. ACE scores are calculated by evaluating dozens of variables having to do with ICT access, capacity and environment in public access ICT venues. "Access" includes variables such as accessibility, suitability, affordability, and the availability of technology; "capacity" includes training, relevant content and services, social appropriation, and collaboration capacity; and "environment" includes socio-cultural factors, popular support, political will, and a country's legal and regulatory framework.

Challenges ahead (from table on front page): Estimates based on combinations of ACE scores indicating difficulty in improving country's public access to ICT. From the fewest challenges to most, categories are: quick wins, steady gains, slow gains, and significant.

CIS: University of Washington Center for Information & Society (CIS)

Cybercafés: Private centers created by small entrepreneurs, which offer users for-pay access for unlimited time periods to the Internet and several software programs for unlimited time periods.

E-readiness: The ability to use ICT for economic development, as determined by measures of connectivity and technology infrastructure, business environment, social and cultural environment, legal environment, government policy and vision, and consumer and business adoption. E-readiness is scored on a scale from 1 to 10. In 2008, the global e-readiness score was 6.4, with the highest levels in North America and the lowest in Africa and Asia.

Gini coefficient: Measures the inequality of income distribution. A low coefficient indicates more equal income distribution, while a high Gini coefficient indicates more unequal distribution. The global average is around 0.6; the US gini is around 0.45.

ICTs: Information and communication technologies (especially computers and the Internet).

Needs & Readiness indexes (from table on front page)**:** The needs index is comprised of three indicators: inequality, ICT usage and ICT cost. The readiness index is also comprised of three indicators: politics, skills and ICT infrastructure. Proxies are used for all indicators. See "Information Needs & Watering Holes" on the CIS Landscape Study website (www.cis.washington.edu/landscape) for a more detailed discussion of these indexes and proxies.

NGO: Non-governmental organization

Non-urban: A "rural" area. Urban vs. non-urban classifications vary by country.

Public libraries: Offer free, unrestricted access to their collections, facilities, and equipment. Although regulated and supported by government (federal and municipal), not adequately invested in new libraries or ICT development, choosing instead to focus on developing book collections.

Telecenters: Hosted by nonprofit organizations to provide free public access to ICT; usually consisting of a room with computers connected to the Internet.

Front photo: Inside a busy telecenter in Sao Paulo. Photo courtesy of webmink (Flickr).