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Benchmarking National Regulatory Authority Websites in Latin America

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Acronyms and abbreviations

ANATEL	Agencia Nacional de Telecomunicaciones (National Telecommunications Agency), Brazil
ARESEP	Autoridad Reguladora de los Servicios Públicos (Public Services Regulatory Authority), Costa Rica
ASEP	Autoridad Nacional de Servicios Públicos (National Public Services Authority), Panama
ASP	active server page – Microsoft technology for dynamic pages
CNC	Comisión Nacional de Comunicaciones (National Communications Commission), Argentina
CITEL	La Comisión Interamericana de Telecomunicaciones (Inter-American Telecommunications Commission)
COFETEL	Comisión Federal de Telecomunicaciones (Federal Telecommunications Commission), Mexico
CONATEL	Consejo Nacional de Telecomunicaciones (National Telecommunications Council), Ecuador
CONATEL	Comisión Nacional de Telecomunicaciones (National Telecommunications Commission), Honduras
CONATEL	Comisión Nacional de Telecomunicaciones (National Telecommunications Commission), Paraguay
CONATEL	Comisión Nacional de Telecomunicaciones (National Telecommunications Commission), Venezuela
CRT	Comisión de Regulación de Telecomunicaciones (Telecommunications Regulatory Commission), Colombia
INDOTEL	Instituto Dominicano de las Telecomunicaciones (Dominican Telecommunications Institute), Dominican Republic
FWX	FoxWeb programming language, Fox-based technology for dynamic pages
JRT	Junta Reglamentadora de Telecomunicaciones (Telecommunications Regulatory Board), Puerto Rico
JSP	Java server pages – Java-based technology for dynamic pages
MIC	Ministerio de Informática y Comunicaciones (Ministry of Informatics and Communications), Cuba
OAS	Organization of American States
OSIPTEL	Organismo Supervisor de Inversión Privada en Telecomunicaciones (Supervisory Office for Private Investment in Telecommunications), Peru
PDF	portable document format
PHP	PHP hypertext pre-processor – GNU technology for dynamic pages
Regulatel	Foro Latinoamericano de Entes Reguladores de Telecomunicaciones (Latin American Forum of Telecommunications Regulatory Authorities)
RSS	Really Simple Syndication
SIGET	Superintendencia General de Electricidad y Telecomunicaciones (General Superintendent of Electricity and Telecommunications), El Salvador
SIT	Superintendencia de Telecomunicaciones (Superintendent of Telecommunications), Guatemala
SITTEL	Dirección General de Telecomunicaciones (General Office of Telecommunications), Bolivia
SUBTEL	Subsecretaría de Telecomunicaciones (Sub-Secretariat of Telecommunications), Chile
TELCOR	Instituto Nicaragüense de Telecomunicaciones y Correos (Nicaraguan Institute of Telecommunications and Mail), Nicaragua
URSEC	Unidad Reguladora de Servicios de Comunicaciones (Communications Services Regulatory Unit), Uruguay
W3C	World Wide Web Consortium
XLS	Microsoft Excel spreadsheet format

Executive Summary

In 2005, a comparative analysis of national telecom regulatory authorities' (NRAs) websites was undertaken in Latin America and the Caribbean. This current effort is designed to record the principal changes and enhancements implemented by the regulators since then. This study was undertaken between March and May 2008 and focuses on 20 Latin American countries, including three in the Caribbean.

The study does not attempt to reveal the degree of efficiency or transparency of the regulators overall, but rather examines the quality of the information provided by the regulator online, the degree of interactivity and the availability of online services and transactions. It also evaluates aspects that could be considered less crucial, but still important, such as search facilities, usability and design.

Although quantitative results from 2005 are not fully comparable to those obtained in 2008, due to modification of the methodology and evolution of categories of assessment, nonetheless an effort at comparison can be made. With that clarification in mind, the results show substantial improvement in the websites of most of the NRAs, and in some cases significant improvement. Two cases that merit particular attention are those of Mexico and Honduras, which were in the process of migrating to new platforms when the evaluation was done; this obviously conspired against their efficient performance. In addition, during the period of the evaluation, the Guatemalan regulatory agency's website was down and could not be evaluated.

According to the classification used, on average the NRA websites in Latin America provide current information, but much of this is still presented in a static manner, with a limited degree of interactivity. The significant and generalized lack of information about universal service policies and plans and statistical information about assistance to users is notable.

The goal of this study is not merely to present a ranking of the websites of regulatory entities in the region, but also to provide an opportunity to review information strategies, evaluate technologies and implement changes that lead to enhanced governance with citizen-oriented services.

Introduction

With the increased privatization of telecommunications and the liberalization of the telecom sector, the role of national regulatory authorities (NRAs) has become ever more important because of their responsibility for ensuring the harmonious co-existence of converging technologies and services, as well as ensuring equitable access to the benefits of the information society. Among the main protagonists of the technological revolution of the past few decades are the Internet and World Wide Web. Nowadays, businesses and organizations that want to be competitive and develop a close relationship with their customers, and which seek to add value to the information they distribute, must have a network presence. Websites now are not only a medium for disseminating information, but also involve key strategies for handling relations with customers and providers. For government institutions, internet presence has become a powerful device for ensuring accountability and the transparency of information, fostering citizen participation and also for providing online services and transactions.

The information and knowledge society brings innumerable changes, including citizens' demands on their authorities. Citizens want to know what their governments are doing. They demand transparency as a way of monitoring government activities, because it is understood that access to and transparency of public information are rights, and it is the government's responsibility to respond to citizens' expectations.

Technology allows the NRA websites to become instruments for effective communication, producing and reproducing information for the benefit of citizens, operating companies, private enterprise, non-governmental organizations, government agencies, etc. The sites must therefore be designed to be functional and accessible to the general public, and must take into consideration such factors as users' needs, educational levels,¹ and physical disabilities that are barriers that limit access. Failure to take these into consideration when a website is designed could constitute discrimination.

The content must be clear, current and complete, and the information must meet the user's needs, facilitating good governance and public administration. Well-implemented technology can foster and promote electronic government and electronic commerce, new forms of communication and relationship that are the result of the information-driven society in which we find ourselves.

Regulatory entities are responsible for issuing clear public information about the sector, overseeing compliance of regulations, and facilitating more democratic access. Regulations should serve as incentives for the development and implementation of new communications and information technologies. It is important to take into account the role that states must play in a changing society, where the speed of technological development makes the implementation of laws or rules for timely regulation of new technological options very difficult, if not impossible. Nevertheless, the state must monitor, regulate and guarantee the quality and accessibility of services.

Users must understand that regulatory bodies are in charge of looking out for their interests, but are also responsible for ensuring that the rules for operators and private companies are clear, which creates confidence in their operations and stimulates investment in the sector.

For these reasons, NRAs cannot be sidelined from the opportunities offered by the internet and its applications. The responsibility to provide current, complete and reliable information to users, telecom operators, potential investors, the media, researchers and the government can be facilitated by the use of websites that combine appropriate information architecture and functionality. The use of websites should be viewed not only from an instrumental standpoint, as a way of increasing competitiveness, but also from a global standpoint of enhancing governance in the telecom sector.

Because of the close relationship among telecoms, information and communications technologies, and the internet, the regulatory entities' websites should be a model of transparency, access, inclusion, quality of content, and useful and up-to-date information for the benefit of all who seek services and information.

This study consists of four sections:

Section 1. General overview of Latin America: The first section provides a summary of the telecommunications market in the region, describing the role of the various national regulatory agencies and the evolution of privatization and liberalization processes.

Section 2. Evaluation of websites: This section presents the evaluation methodology, the categories used and how they were weighted. It also examines the importance of the role played by websites in the work of regulatory entities.

Section 3. Benchmarking Latin America's national regulatory authorities: The third section presents the results of the evaluation of 20 regulatory entities in the region, including the three Caribbean countries. All of the countries evaluated have websites in Spanish, except for Brazil, where Portuguese is spoken.

Section 4. Conclusions: Various conclusions are presented and recommendations are offered to help NRA take steps toward the enhancement and evolution of their websites.

Section 1. General Overview of Latin America

Regional bodies

During the 1980s and 1990s, Latin America adopted a series of neoliberal economic measures that tended toward liberalization and deregulation of markets. These measures were touted by world leaders,² international finance and multilateral organizations, and were promoted at international forums and events where the economic policies that countries would adopt were discussed.

The most significant initiative implemented by Latin American countries grew out of the Washington Consensus,³ which was backed by international finance bodies such as the World Bank and International Monetary Fund and recommended to other countries around the world.

Fiscal austerity, privatization, and market liberalization were the three pillars of Washington Consensus advice throughout the 1980s and 1990s. The Washington Consensus policies were designed to respond to the very real problems in Latin America, and made considerable sense. In the 1980s, the governments of those countries had often run huge deficits. Losses in inefficient government enterprises contributed to those deficits. Insulated from competition by protectionist measures, inefficient private firms forced customers to pay high prices. Loose monetary policy led to inflation running out of control. Countries cannot persistently run large deficits; and sustained growth is not possible with hyperinflation. Some level of fiscal discipline is required. Most countries would be better off with governments focusing on providing essential public services rather than running enterprises that would arguably perform better in the private sector, and so privatization often makes sense.⁴

To a certain extent, these policies adopted by Latin American countries had some logic. “In many developed — and developed — countries, governments all too often spend too much energy doing things they shouldn’t do. This distracts them from what they should be doing. The problem is not so much that the government is too big, but that it is not doing the right thing.”⁵ It was argued that the state should leave the management and control of companies that were once natural state-run monopolies in the hands of the private sector. Often the management of these companies was the result of political appointments with few technical qualifications. “In general, competing private enterprises can perform such functions more efficiently. This is the argument for privatization ...”⁶ Private companies would be responsible for efficient management of the services acquired, and users would benefit, especially in the cost and quality of these services. Unfortunately, the privatization process was not necessarily accompanied by strong, effective regulation to control the new private companies.

Another place for dialogue and agreement, where the liberalization and deregulation of markets became important, was the Uruguay Round,⁷ in which there was international discussion of mechanisms for developing worldwide free trade. One of the topics was telecommunications and transportation services. These initiatives show that during the 1980s and 1990s, a new international order was taking shape, in which the neoliberal policies that countries imposed on their economies took priority. In the international context of interdependence, these initiatives responded to the interests of international private enterprise, which needed market deregulation and elimination of state-run enterprises in various countries in order to expand. Unfortunately, this was not accompanied by an equitable process in developing countries; in many cases, after

implementing the policies recommended by multilateral bodies, these countries experienced serious economic crises that destabilized their governments.

The much heralded benefits of privatization were not evident in practice, and the process did much harm to societies. Jobs were not created, instead, employees who were laid off from the privatized companies swelled the rolls of the unemployed. Privatization was supposed to eliminate corruption, or “what economists call the ‘rent-seeking’ activity of government officials who either skim off the profits of government enterprises or award contracts and jobs to their friends. But in contrast to what it was supposed to do, privatization has made matters so much worse that in many countries today privatization is jokingly referred to as ‘briberization.’”⁸ In some Latin American countries, presidents have had to resign because of corruption charges. If a government is corrupt or its officials engage in practices that run counter to the public good, privatization does not guarantee that those practices will change. If a government is corrupt, that same government will handle the privatization process.

It is important to clarify that the measures taken responded to the fact that in the 1980s, which is known as the ‘lost decade’ because of its countless economic crises, state-run companies often operated at a loss because of poor management. The technological model adopted by these companies did not take advantage of technological advances being implemented in other countries and accentuated the digital divide.

These changes required clear legal structures and strong, efficient regulatory mechanisms to stimulate expansion of the market and efficiency in the companies, rather than what actually happened — distrust of markets and democratic institutions. Unfortunately, in many cases poorly managed state-run companies operating at a loss gave way to private companies that imposed their interests, and which the state could not control, to the detriment of society.

In the privatization and market deregulation that occurred in Latin America, telecom companies and markets were coveted by foreign and national private investors.

During the 1990s, the telecom sector in Latin America showed significant growth, mainly because of a modernization process that would turn over the administration, management and control of what had been state-run monopolies to private foreign companies (in other words, privatization) that implemented new technologies, especially in fixed and mobile telephony and internet access.

The striking development of telecommunications in the region’s countries is partly due to the maturation of the business in developed countries and partly to the difficulties in implementing reforms conducive to modernization and development of the sector in the poorest, most backward countries in the world; above all, though, it is due to structural transformations of the telecommunications industry and reforms implemented in Latin America and the Caribbean during the 1990s, which had significant consequences in the region’s telecommunications sector.

[...] In the 1990s, significant institutional changes occurred in Latin America that had a strong impact on the performance of the telecommunications industry. The major basic telephony companies in the region were transferred to international economic agents, and legal frameworks were radically modified to allow segmentation of the industry, as well as the incorporation of new technologies, the development of lines of business that had not existed before, and the entry of new players into the respective markets. Nevertheless, in the various scenarios that emerged after the reforms, the State has continued to play an important role in developing this area, strengthening its role as guarantor of the efficient provision of telecommunications services in

accordance with the needs of each country, within the framework of the new international economic orders (Rozas, 2003).⁹

The privatization process in Latin America during the 1990s was intense and accelerated. “More than two-thirds of the countries in the Latin American region had already partially or completely privatized their telecommunications companies.”¹⁰ The privatization process also was extremely varied, because it depended on each country and its market, the degree of openness to new economic stakeholders, and the implementation and planning of public telecommunications policies that provided incentives or disincentives to the telecommunications services industry. It is important to remember that telecom companies were the most highly valued in the privatization process. “According to data from the World Bank, the sale of state-run telecommunications companies worldwide during the 1990s generated revenues of US\$76 billion, equivalent to 24 percent of all revenues from this process. The bank determined that telecommunications companies were the sector that generated the greatest revenue from privatizations, surpassing companies in the electricity sector.”¹¹

The initial benefits of privatization made many people believe that the principal problems¹² in the telecom sector would be overcome. Unfortunately, although significant progress has been made, there are still regions that lack access to basic telecommunications services, which increases the digital divide in the region.

It is also important to note that while some Latin American countries did not begin privatization processes, they also opted for structural forms in which the regulatory framework was modified, allowing the entry of private operators who diversified the range of services and access to new technologies.

Regulatory authorities in Latin America

With the privatization process, many Latin American countries established telecom regulatory authorities for oversight, management and implementation of new regulations for this market.

During the late 1990s, regional initiatives arose that allowed the sharing of experiences, fostering cooperation in information about regulation of the telecom market. One such initiative was Regulatel, the *Foro Latinoamericano de Entes Reguladores de Telecomunicaciones* (Latin American Forum of Telecommunications Regulatory Authorities). Regulatel is comprised of 20 regulatory agencies from Latin America, as well as European regulatory entities, which act as observers. The first initiative arose in 1997, in Cancún, Mexico. The effort was subsequently reinforced and the forum became more structured so as to project an image of Latin American unity on issues related to the regulation of telecommunications and technological advances in the field.

The Inter-American Telecommunication Commission (CITEL) “...endeavors to make telecommunications a catalyst for the dynamic development of the Americas by working with governments and the private sector. Under the auspices of the Organization of American States, it resides in Washington, DC, USA. It has 35 Member States and over 200 Associate Members. It has been entrusted by the Heads of State at the Summits of the Americas with specific mandates to intensify its activities in key areas ...”¹³ This body is autonomous under the OAS Charter, statutes and mandates of

the General Assembly. Its goals include facilitating and promoting the development of telecommunications in the region.

To facilitate regional efforts and promote the development of telecommunications in the region, efforts have arisen such as the Connectivity Agenda for the Americas, which is a "... conceptual framework that can be envisioned as a national, regional or sub-regional strategy for transforming the hemisphere's countries into a knowledge-based society. The Action Plan offers a basic three-step process for countries interested in formulating and implementing a connectivity strategy. These are: evaluation and planning, implementation and valuation ..."¹⁴

Regulatory challenges in the region

As noted above, the privatization process in Latin America responded to a decade, the 1980s, in which economic growth stagnated, countries' indebtedness and default on credit obligations reached alarming levels, and governments sought mechanisms for resolving the crisis. The response was found in the Washington Consensus policies, which were backed by international finance bodies and recommended market liberalization, fiscal austerity and privatization. In this process, the telecom companies were the most coveted, and it was thought that the arrival of outside economic agents bringing new technology would narrow the technology gap.

To a certain extent, the new technology that was implemented and new services, such as mobile telephony, helped modernize the sector. Unfortunately, however, the access-related technology gap has not yet been closed, as there are still countries in the region that lack generalized access to fixed telephony. When countries set up their state-run enterprises, they subsidized service in areas with low population densities and remote areas far from cities. To a certain extent, this fulfilled a social function. Private enterprise, however, responds to different requirements, and from the standpoint of this new model, funds established to develop universal service have met expectations.

The entry of private companies, most with foreign capital, helped create a market of free competition, especially in services such as mobile telephony, internet service provision and current converged services such as IPTV. Operators fight for market share, and in many cases costs have come down, quality has improved and new services have been offered, enabling users to choose the ones that best meet their needs.

In this process, the creation of national regulatory authorities has played an important role in oversight of companies and consumer defense. The regulatory process did not accompany the privatization process from the start, but it is important to note the regional initiatives that have allowed the exchange of information and cooperation between successful experiences to achieve consistency in telecommunications regulatory policies.

Section 2. Evaluation of Websites

Evaluation methodology

The 2005 NRA benchmark study was inspired by the 2001 United Nations report, “Benchmarking E-government,” which identified five stages of electronic government: emerging, expanded, interactive, transactional and seamless (meaning that all information is available to everyone at all times). These categories were used to evaluate the various aspects of regulatory agencies’ websites to arrive at a consistent classification system for the various categories of information and characteristics of the websites analyzed.

The qualitative requirements for the five stages were modified slightly for the NRA benchmarking studies to reflect the particular nature of regulatory websites. The last category of the UN study, ‘seamless’, which refers to full integration of all electronic functions and services across administrative and departmental boundaries, was excluded on the grounds that it was not realistic for the subjects of this study — and, in fact, it was not attained by any country in the worldwide study. The stages were therefore defined as follows:

Emerging: Only basic, mostly static information available.

Enhanced: The content and information are updated regularly, and the information is available not only in its original format (for example, decrees and laws), but also in simplified explanatory form.

Interactive: Users can download forms, contact officials and file requests. The available information has the added value of being linked to relevant legislation.

Transactional: Users can submit forms on line — to request information or licensing forms, for example.

Each sub-category was classified, with each thematic element assigned a value (from 1 to 4, based on the stages described above), and each category contributing to a final score. The classification was based on qualitative evidence, but subjectivity was minimized by the use of the categories defined above, rather than relying merely on perceptions.

It should be noted that a value of “0” was used to indicate the lack of information or a service. Intermediate scores were also used to provide a more precise assessment. For example, if information was available but it was not completely up-to-date and lacked sufficient explanation, it received a score of 1.5.

Categories and sub-categories

The evaluation was designed to be as comprehensive as possible. It therefore took into account the different types of information that the regulatory authority must provide to the various stakeholders involved in the telecommunications market.

The first category considers factual information, such as a description of the sector; this category includes laws and the legal framework, indicators and news.

The second category is related to consumers and citizens, and includes information useful to the user, consumers' rights, procedures for filing complaints and participation in public consultations.

The third category involves information useful for operators and investors. Aspects related to homologation and certification of equipment, licensing, interconnection and management of the electromagnetic spectrum are evaluated in this category.

The fourth category refers to general information, such as the mission statement, organizational chart, contact information for functionaries, and external and internal links. While the general methodology takes into account the availability of information in different languages, this sub-category was not considered for Latin America.

The last category evaluates information about universal service/access policies and plans included in the NRA websites.

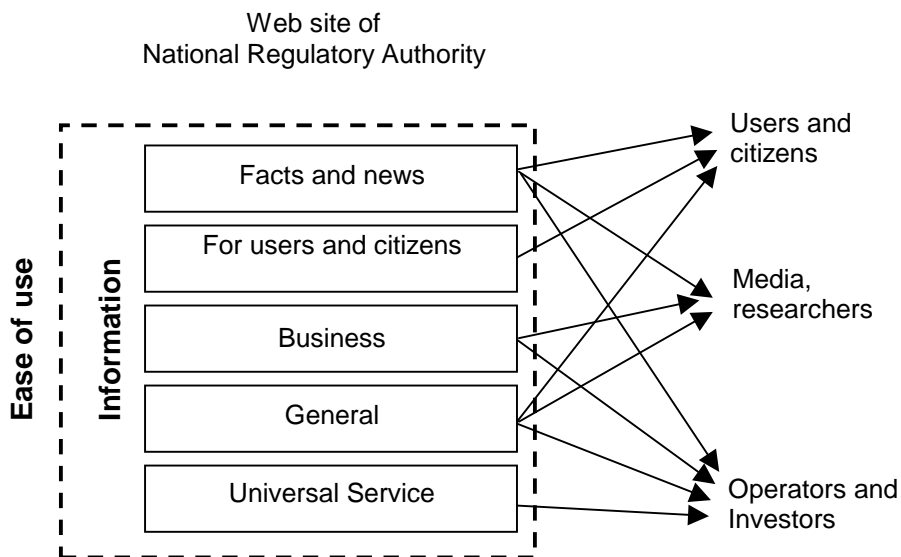


Figure 1. Information from NRA websites and their users

The evaluation thus considers five categories and a total of 20 sub-categories. The specific application in Latin America considered only 19 sub-categories, excluding from the evaluation information about languages or local dialects. The following table shows the categories and their respective sub-categories.

	Category	No.	Sub-Category
1	Factual information and news	1	Laws, regulations
		2	Statistical information and indicators for the sector
		3	Sector news
2	Information for users and citizens	4	Information for users (rights, rate information, new numbering plans, etc.)
		5	Information about users' and consumers' rights
		6	Process for filing complaints
		7	Information about public hearings
3	Business information	8	Statistical information about assistance to users and resolution of complaints
		9	Certification of equipment
		10	Details about entering market (licensing)
		11	Information about interconnection
		12	Articles and documents by consultants
4	General information	13	Scarce resources (spectrum allocation)
		14	Mission statement
		15	Local languages
		16	Links to national and international sites
		17	Contact information for key officials (telephone, email, contact form)
		18	Ease of use (navigation tools, site map, search engine, organization)
5	Universal Service / Universal Access	19	Organizational chart or equivalent
		20	Information about policies, reports and plans

Weighting of categories

To implement the methodology, each category and sub-category was assigned a certain weight. Equal weights were assigned to the first three categories, and the fourth and fifth categories were weighted to total 100 percent.

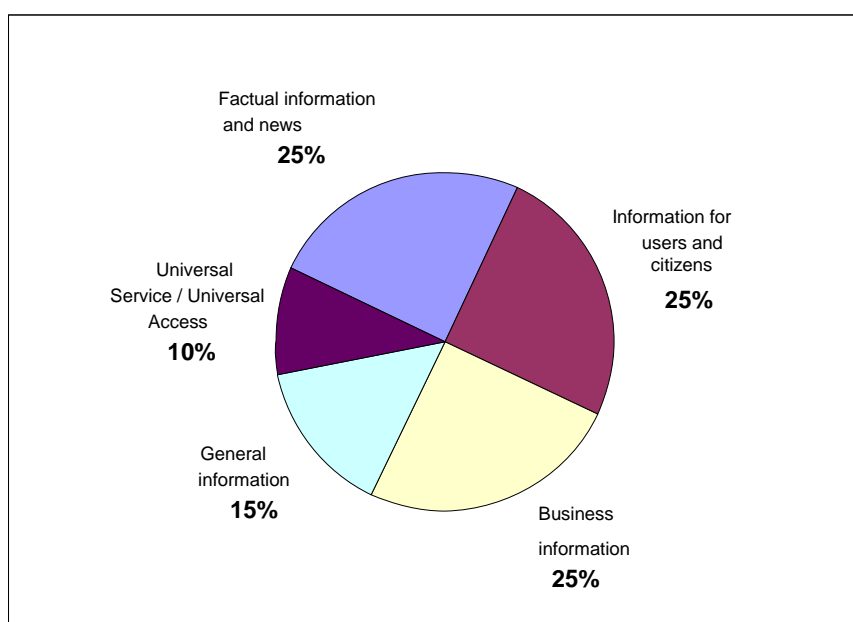


Figure 2. Weight distribution for the five evaluation categories

The following table shows the weight assigned to each sub-category.

Category	Weight	Sub-Category	Weight
Factual information and news	25.0%	Laws, regulations	10.0%
		Statistical information and indicators for the sector	10.0%
		Sector news	5.0%
Information for users and citizens	25.0%	Information for users (rights, rate information, new numbering plans, etc.)	5.0%
		Information about users' and consumers' rights	5.0%
		Process for filing complaints	5.0%
		Information about public hearings	5.0%
		Statistical information about assistance to users and resolution of complaints	5.0%
Business information	25.0%	Certification of equipment	5.0%
		Details about entering market (licensing)	5.0%
		Information about interconnection	5.0%
		Articles and documents by consultants	5.0%
		Scarce resources (spectrum allocation)	5.0%
General information	15.0%	Mission statement	2.4%
		Local languages	0.0%
		Links to national and international sites	3.9%
		Contact information for key officials (telephone, email, contact form)	3.9%
		Ease of use (navigation tools, site map, search engine, organization)	2.4%
		Organizational chart or equivalent	2.4%
Universal Service / Universal Access	10.0%	Information about policies, reports and plans	10.0%

As noted above, for the evaluation in Latin America, the fourth category did not include the “local languages” sub-category; this sub-category’s weight was distributed equitably among the other five sub-categories.

Challenges in application of the methodology

The methodology used in this study to evaluate the national telecom regulatory authority websites in Latin America clearly defines the aspects to be evaluated and the levels to which they should be assigned based on real observation. The methodology is intended to minimise the evaluator’s subjectivity in the evaluation. As with any evaluation, however, this poses challenges. The following describes these challenges and the strategies used to address them.

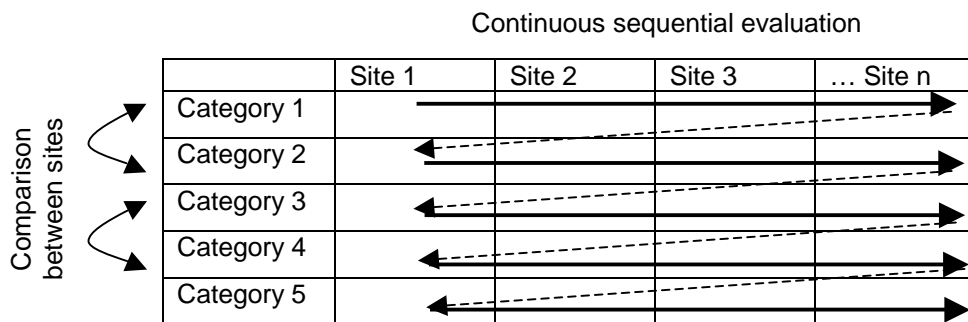
Using numerical categories for the evaluation, in this case 1 to 4, gives the observer the erroneous idea that the highest score represents the ideal situation. It is therefore important to clarify that the assigned value does not rate the efficiency of the site, but describes it and places it on a scale in terms of certain levels of development from an emerging level to a transactional level, passing through more enhanced and interactive stages. It is important to clarify this aspect, because several categories, by their nature, cannot reach the transactional level. For example, the mission statement and news cannot provide online services (level 4). They could however, contain updated

information and a detailed explanation (level 2), and even include elements that facilitate interactivity and user feedback (level 3).

Another challenge posed by numerical scale is the limited number of levels for describing intermediate stages. In this case, therefore, intermediate scores were used. For example, if a site included sufficiently detailed explanations or completely updated information (level 2), but only took these factors partly into account, it received a score of 1.5. This helped make the evaluation more precise, though it might lower the site's overall score, which otherwise would have received a rating of 2.

One challenge posed by the evaluation of various sites is that of equality — maintaining the same weighting criteria regardless of the object being evaluated. One strategy used to ensure equitable evaluation was the application of the analysis to the entire set of sites only once, within a short period of time, to ensure that the evaluation criteria would not be affected over time. For this study, the websites were reviewed between 28 April and 2 May.

Another useful strategy for adjusting the evaluation is peer comparison, in which two sites are randomly compared and the evaluation is applied again to a certain aspect. When the evaluation is finished, this can be useful for comparing the sites with the highest scores and adjusting for possible imbalances. This enables the researcher to ensure that the weighting has been done correctly.



The evaluation was relatively agile for the most advanced sites, whose design facilitated the search for information. For sites that had more limited functionality and usability, both the site's own search engine and external search engines such as Google had to be used. This was necessary to determine whether information was available even when its location was not evident.

The following figures show how this strategy was used.

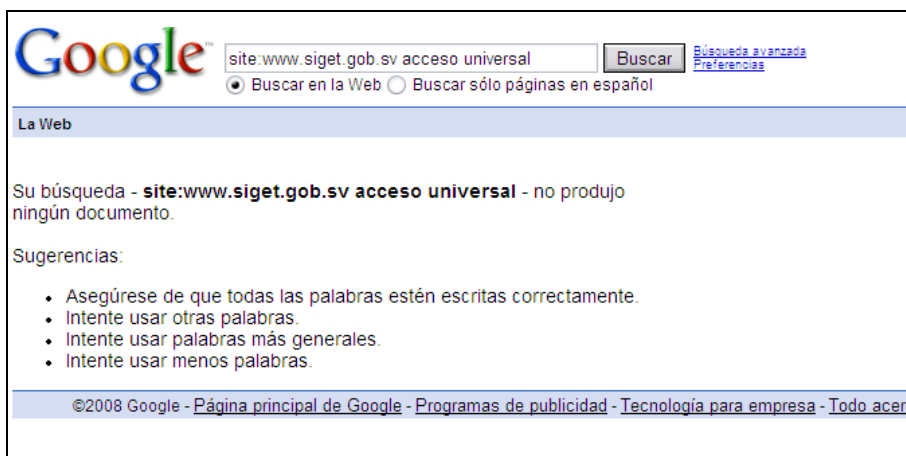


Figure 3. Result of external search for information without results



Figure 4. Result of external search for information with results found

Finally, one obvious limitation of an evaluation such as this is that it is done at one point in time; the scores show the situation of the website on the date of the evaluation. Subsequent review of the websites (two weeks later) revealed that several of the sites had been updated, display of indicators was enhanced, etc. To maintain the objectivity of the evaluation, however, the results described are those of the evaluation done on the common review date.

Section 3. Benchmarking NRA Websites in Latin America

This section presents the results of the evaluation of the websites of 20 national regulatory authorities in Latin America. The graphs show the countries in descending order, from the highest score to the lowest. The average score for the region is shown in a different color. As noted above, during the period of evaluation, the Guatemalan website was not available.

Factual information and news

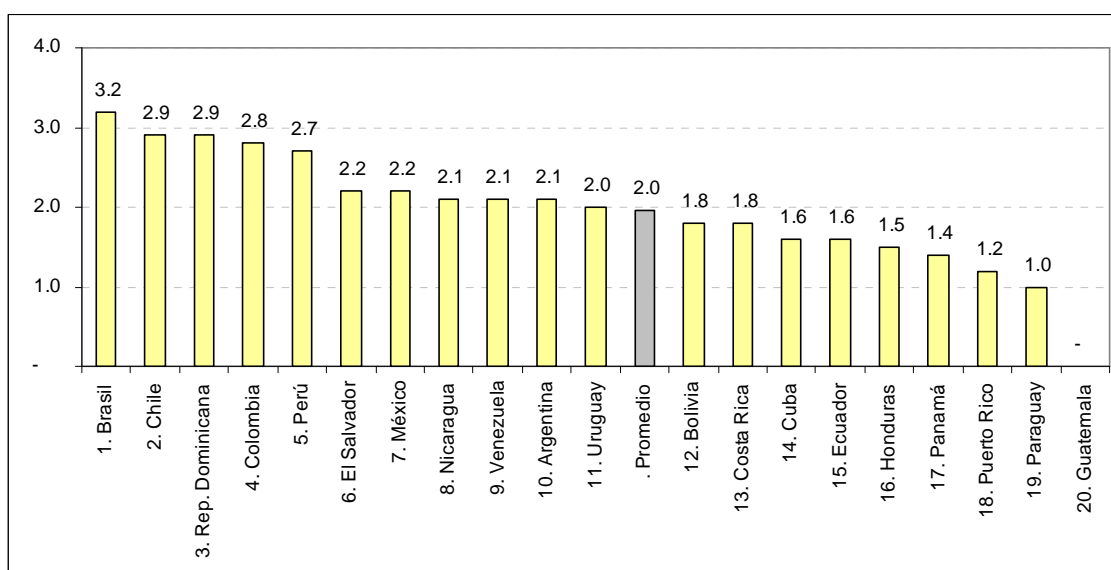


Figure 5. Scores of NRA websites in the category of factual information and news

The regional average for this category was high; 11 of the 20 countries evaluated present complete, detailed, explanatory information. In addition, the five countries ranking highest include facilities for interactivity, such as search systems, forms, etc. The country with the highest score is Brazil, whose website overall has a very advanced functional design.

All countries with an available website had information in this category. Even the website with the lowest score at least had static information.

Among the sub-categories that make up this category, it is noteworthy that news scores lowest. While the scores are higher than static level, they do not rank as complete and up to date. The Dominican Republic is notable for the advanced tools that it incorporates into its news section. Each item is accompanied by one or more descriptive images or photographs, and there are icons for converting the news item directly to PDF format, printing it or e-mailing it. There is also the possibility of syndicating content using RSS 2.0, and direct links are provided to a glossary of terms, legal statement and privacy policies.

Availability of laws and regulations is at an optimal level, although few sites include interactive search systems. In Argentina, via the Technical Information Centre (Library), there is an organized presentation of all regulations, with appropriate

explanations, and the norms can be downloaded in PDF format. A further noteworthy positive element is the indication of the size of the archived information files, which is useful for users with limited bandwidth. The Dominican Republic stands out again for the organization of the information, options for finding more detailed information and the possibility of downloading in different formats. It is also noteworthy that visitors to the site can download the programs needed for viewing the documents, specifically Acrobat Reader for PDF files and Word Viewer for DOC files.

Finally, the statistical and sector information on the sites tends to be complete, with only a few cases of very outdated information. Several sites had information from 2007. Some sites had detailed information broken down sufficiently for more in-depth analysis. The Peruvian site stood out because it gave the user access to statistical information in spreadsheet format. Colombia is also noteworthy, as it uses the Unified Information System for the Telecommunications Sector (*Sistema de Información Unificado del Sector de Telecomunicaciones, SIUST*), a specialized application for statistical queries of indicators. Brazil also uses several advanced query systems.

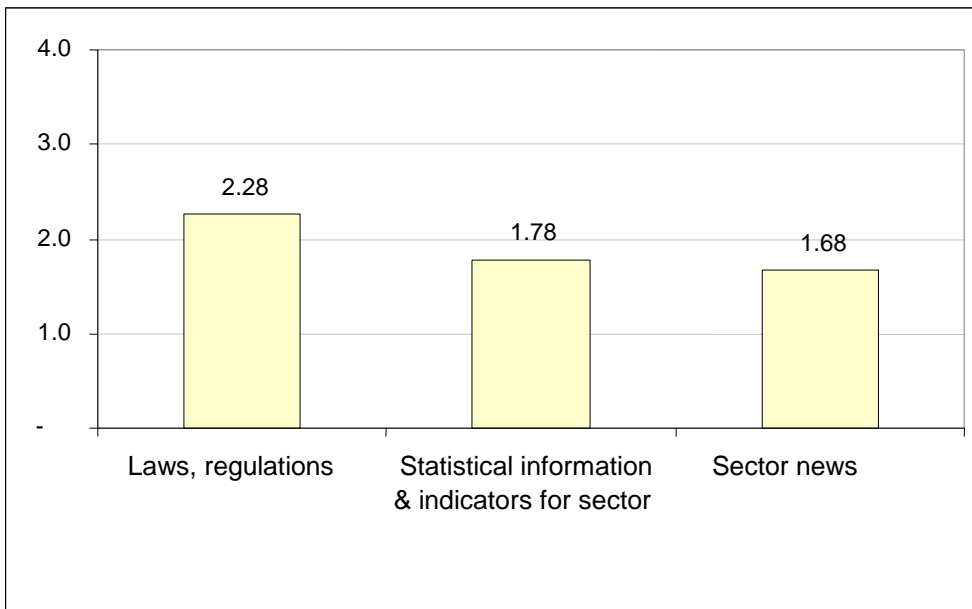


Figure 6. Average regional score for sub-categories of factual information and news

In conclusion, there is a small group of countries that have little to improve in this area and some sites have reached a fairly optimal level of interactivity. Most countries, however, have many opportunities to enhance, complete and update information and incorporate advanced tools to facilitate user participation.

User information

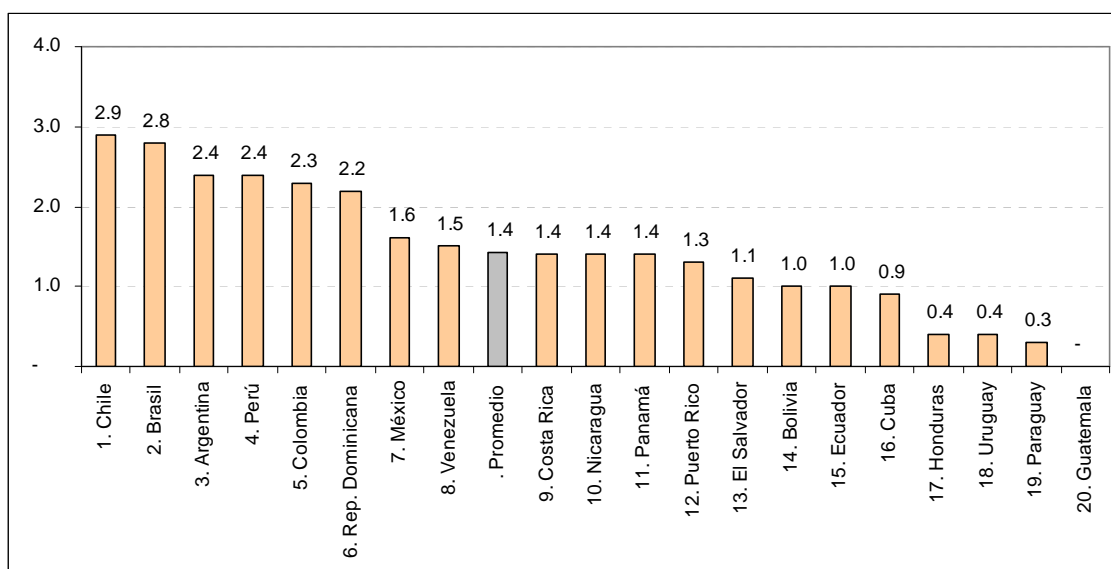


Figure 7. Ranking of NRA websites in the user information category

In this category, the regional average barely exceeds the minimal level, lacking even complete and detailed information in many instances. Of the eight countries that scored above average, just two, Chile and Brazil, come close to interactivity. Of the 12 countries below the regional average, the last five have scores lower than one, reflecting the absence of information in one or more sub-categories.

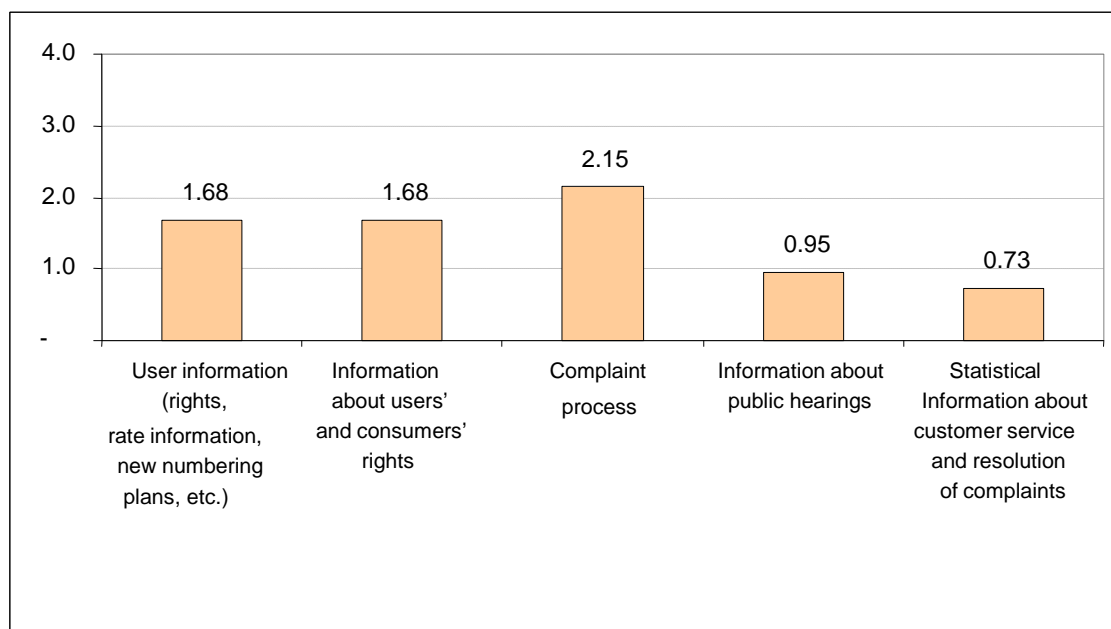


Figure 8. Average regional score in sub-categories of user information

In general, helpful user information about rates, numbering plans, etc., is not available on most sites or cannot be found easily. Brazil and Chile stand out as positive examples. The latter has a direct link from its home page to the 'Consumers' section, where

complete information can be found about all aspects of interest to the user of telecom services.

The process for filing complaints is better documented, and in some cases it is possible to file the complaint with an online form. It was not possible to test the efficiency of these tools; the evaluation could only note that it was possible to do so. The types of forms are varied, from forms that are embedded in the website to those that can be downloaded in DOC or PDF format. Several countries stand out in this sub-category: Argentina, Chile and the Dominican Republic. Colombia is a special case, because the *Comisión de Regulación de Telecomunicaciones* (CRT) has developed a special portal for the Rights of Telecommunications Users website.¹⁵ In addition to an online form submission option, there is a free hotline and the site includes explanatory information about filing a complaint.

Ten of the 20 countries include no information about public hearings. Among the countries that do, Brazil, Chile and Colombia stand out because their sites include detailed and even historical information about consultation processes and public debate.

Statistical information about customer service and resolution of complaints is generally inadequate. Twelve countries lack such information. Of the others, Peru and Brazil have paid more attention to the topic. Peru may be the only case in which information is provided about the office that resolves complaints. Statistical information is available in spreadsheet format. Perhaps the only limitation of Peru's site is that there are problems displaying the page with browsers other than Internet Explorer (such as Mozilla Firefox, SeaMonkey or Opera).

Business information

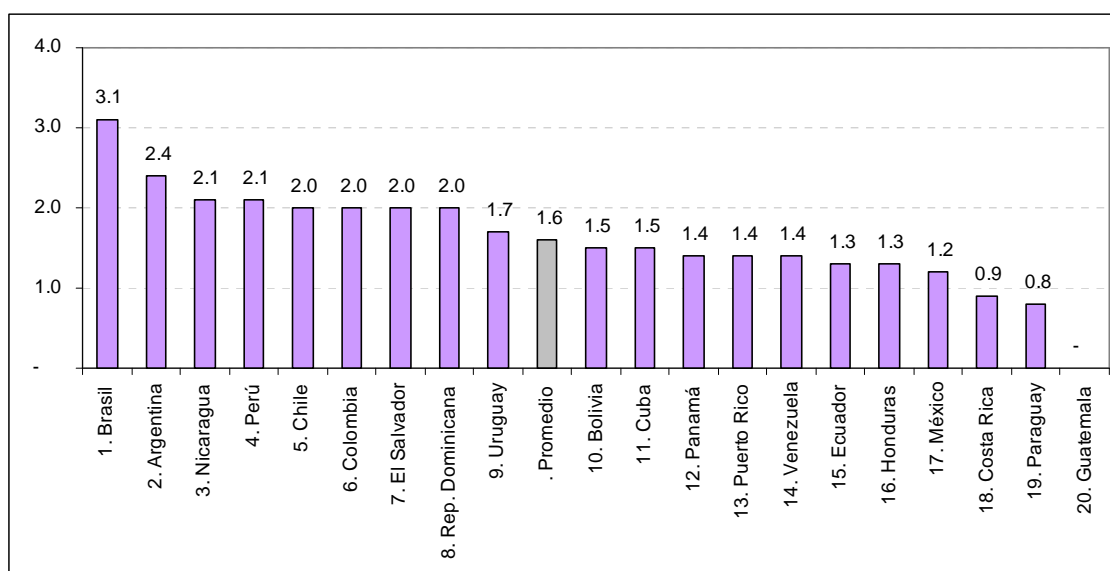


Figure 9. Ranking of NRA websites in the business information category

Business information appears to be another weakness of the majority of the websites in the region. The regional average shows that it has barely exceeded the level of static information. Nine countries surpass the regional average of 1.6. Brazil, at the top,

appears to be the only country that has incorporated interactive services. Argentina is another noteworthy case, but most of the countries are still some distance from enhanced level.

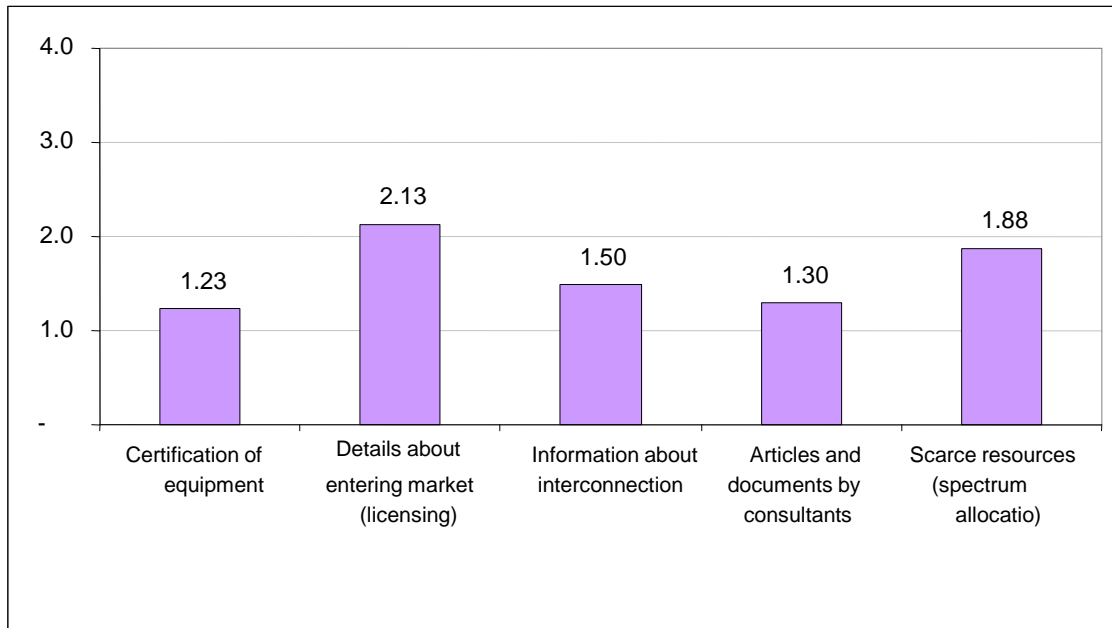


Figure 10. Regional average for business information sub-categories

In the area of information about equipment certification, seven sites do not even mention the subject. Brazil, Argentina and Cuba clearly and explicitly include an option for homologation of equipment. Cuba’s section on “Oversight and Supervision” explains the homologation process and allows users to begin by downloading a special form.

Information about licensing details is the section to which the greatest attention has been paid in this category. Brazil, Chile, Panama and Peru are the countries with optimal levels of interactivity. The Panamanian regulatory agency’s site includes detailed information about time frames and requirements for filing applications, forms in PDF format, and the complete list of concessions granted.

Information about interconnection, like that about homologation, is limited. Most sites only include regulations for interconnection, without further explanation. Brazil and Peru stand out in this sub-category. Peru’s section on ‘Business Services’ includes the option, ‘Interconnection Topics’, where the visitor can find current interconnection contracts, current interconnection contracts by company, setting and review of maximum interconnection charges, the text of interconnection contracts, basic interconnection offers, and economic conditions.

Information is also scant in the sub-category of articles and studies by consultants. Countries such as Brazil, Nicaragua and Peru have made efforts to give users access to full text documents that can be downloaded from the websites. They also have systems for searching for these documents, a classification system and an explanation of the archives, providing good service in this area. Nicaragua’s ‘Digital Library’ option

provides access to specialized studies and articles about the sector that can be downloaded in PDF format.

Finally, all of the sites include information about spectrum management and allocation of scarce resources, although the information is mainly static. Argentina, Brazil and El Salvador not only have complete information, but also facilitate access to it using interactive tools. In the ‘Telecommunications Sector’ section of El Salvador’s website, the ‘Spectrum’ option contains complete information about the frequency allocation chart, bulletins, instructions, concession procedures, regulations, etc.

General information

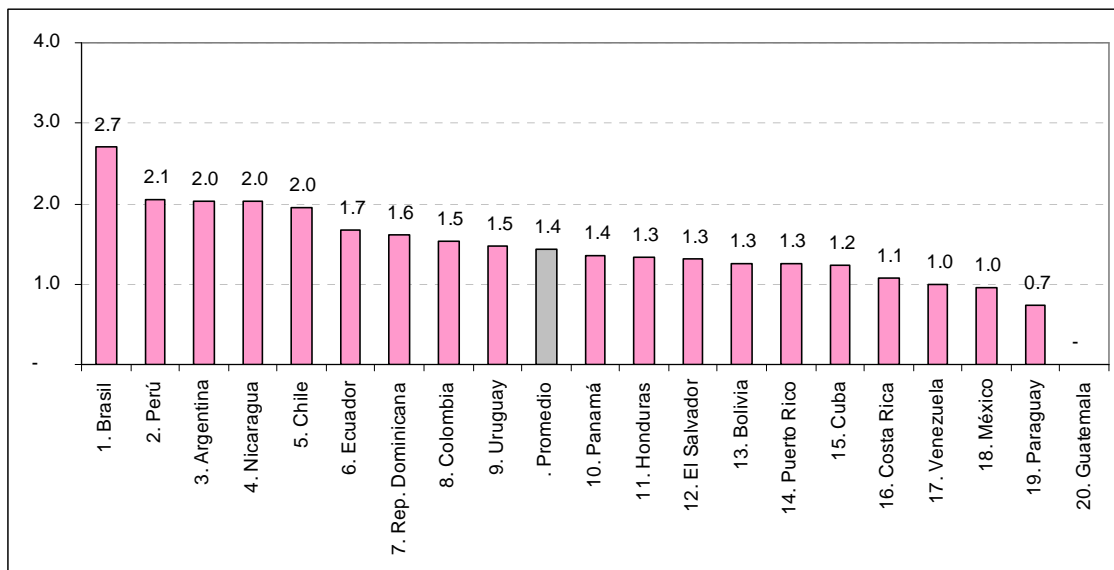


Figure 11. Ranking of NRA websites in the general information category

The regional average of 1.4 indicates that this information is still at the static level. Once again, Brazil stands out with a portal designed with interactivity in mind. The next four countries are barely at the enhanced level. The other countries are in the range between static and enhanced.

It would seem fairly obvious that a website would include the agency’s mission statement. All countries except Panama include the text of such a statement. Only Argentina and Brazil enhance the text by including hyperlinks to related legislation and regulations (level 2).

In the sub-category of internal and external links, most of the sites include only a list of hyperlinks to related sites. Peru, Brazil, Nicaragua and Panama stand out, providing value-added by including an appropriate categorization of the links and brief descriptions of the sites. The links to this section were also explicit. The ‘Links of Interest’ section on the Peru website provides a complete list of national and international links related to telecom. It is possible to send an electronic mail message or fill out a form suggesting new links. Each site also has a brief description, shows the number of visits and allows the user to rate the quality of the link.

Contact details for officials and staff were provided on all websites. Brazil and Nicaragua demonstrated best practices in this area. Besides including a form in the ‘Contact Us’ section, Nicaragua’s ‘Customer Service’ section includes a list of the staff members who handle customer issues in 15 cities, indicating the street address, several telephone numbers and email address.

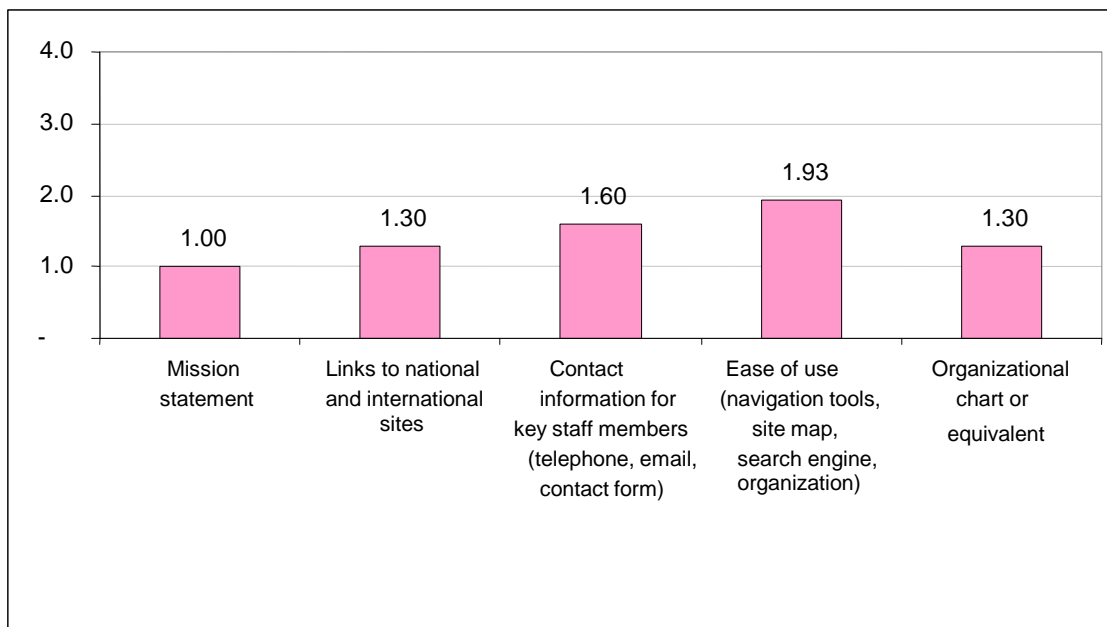


Figure 12. Regional average for general information subcategories

Like the mission statement, the organizational chart is a must for a regulatory authority. Various sites had interactive organizational charts. Noteworthy examples include Brazil, Chile, Colombia and Peru. Chile, for example, has a special animated application for interactively displaying the structure of the Telecommunications Sub-Secretariat. On the Peruvian site, some hyperlinks in the organizational chart link to the resúmenes of key agency officials.

To finalize this category, analysis was also undertaken on an aspect, which although could seem unimportant, is crucial for most users. The structure of the site and the existence of a search engine or site map are key to facilitating information searches and navigating the site. In this area, most of the sites in Latin America have moved out of the merely static phase and are gradually including enhanced information, but have not yet reached the level of generalized interactivity. Only the regulatory agency sites in Brazil, Argentina, Chile and the Dominican Republic stand out for their interactivity. Most of the sites include search engines, but many cannot do advanced searches or the results obtained are inadequate. Ten sites have optimized design for a resolution of 800 x 600, but only two, Brazil and Cuba, adjust the screen size beginning with a resolution of 800 x 600. The other seven allow adjustments as of a resolution of 1024 x 768. In terms of the technology used, 16 sites are dynamic and three are static. Of the dynamic sites, 12 were developed with ASP technology, two with JSP, one with PHP and one with FWX.

From the standpoint of usability and other technical issues, some inadvisable practices were found. These include the use of frames on the websites of Brazil, Colombia and

Venezuela, and the inclusion of an initial Flash animation like the one on the Uruguayan site. There are also examples of recommended practices, such as the Chilean site, which meets HTML 4.01 and CSS standards according to the World Wide Web Consortium (W3C). Colombia’s site includes the direct possibility of increasing font size, which is a requirement for accessibility and ease of use for visually impaired users.

The inclusion of Web 2.0 tools is still limited. A few sites, such as those of the Dominican Republic and El Salvador, allow the use of RSS. Forums, online chat, Twitter and podcasts are not included in any of the evaluated websites.

Information about universal access/service

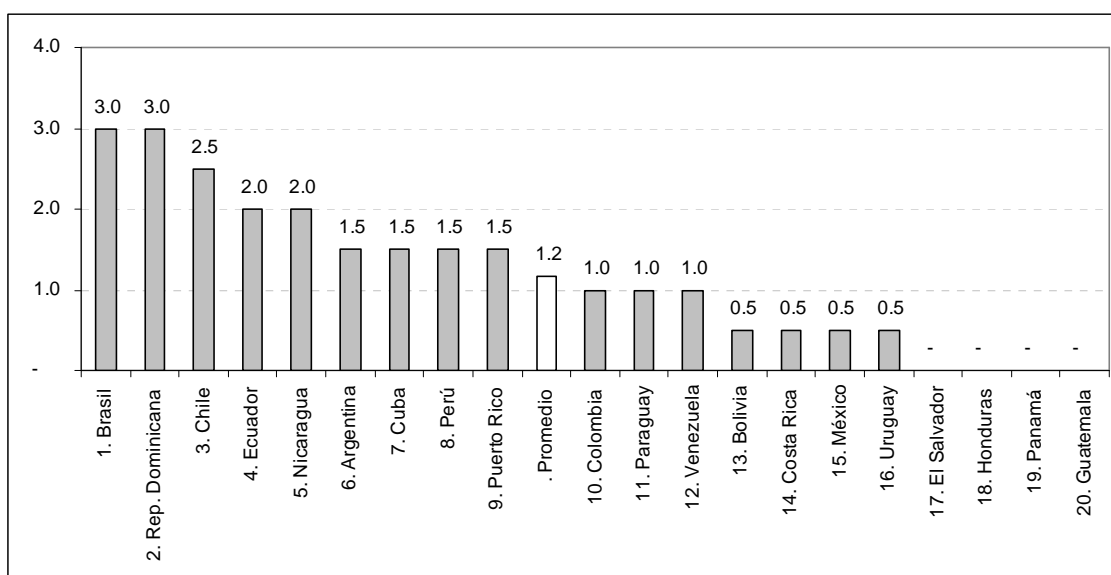


Figure 13. Ranking of NRA websites in the universal service category

The final category evaluates the availability of policies, reports and plans related to universal service/access. There were many asymmetries in this category. Some countries, such as Brazil and the Dominican Republic, have extensive information and even interactive consultation systems, while other countries do not even mention the subject. Between these extremes, most sites include static and often limited information.

One noteworthy case is that of the Dominican Republic, which has a system that allows citizens to search ICT projects. With the help of a map, users can do a detailed search for projects by location. On Brazil’s site, the ‘Universalization’ section includes complete information about policies and projects for universal service, as well as an online system for operators to file their universal service fund statements.

Overall ranking



Figure 14. General evaluation of national regulatory authority websites

At the end of the evaluation, the final classification shows seven countries in the region above the regional average of 1.58. This indicates that most of the agencies still have static information that is incomplete and lacks the necessary detail. The other 13 countries are classified at about an emerging level. Among the best-positioned countries, Brazil and Chile stand out for their solid structure, user-centered design, interactivity and inclusion of online services.

The situation in the region can be summarized as follows:

- Level 1 - static: 11 countries
- Level 2 - enhanced: 8 countries
- Level 3 - interactive: 1 countries
- Level 4 - transactional: no countries

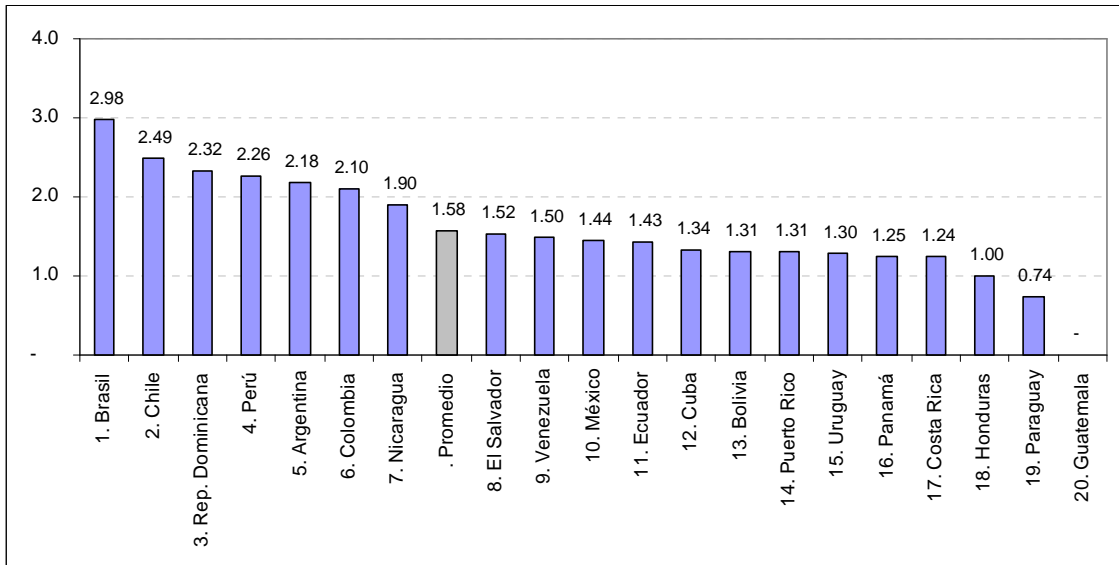


Figure 15. General ranking of NRA websites in Latin America

In the evaluation by category, factual information and news are at the enhanced level; business information, although a bit farther away, is approaching level 2. This is not the case with user information, general information and information about universal service, however, which are closer to static than enhanced levels.

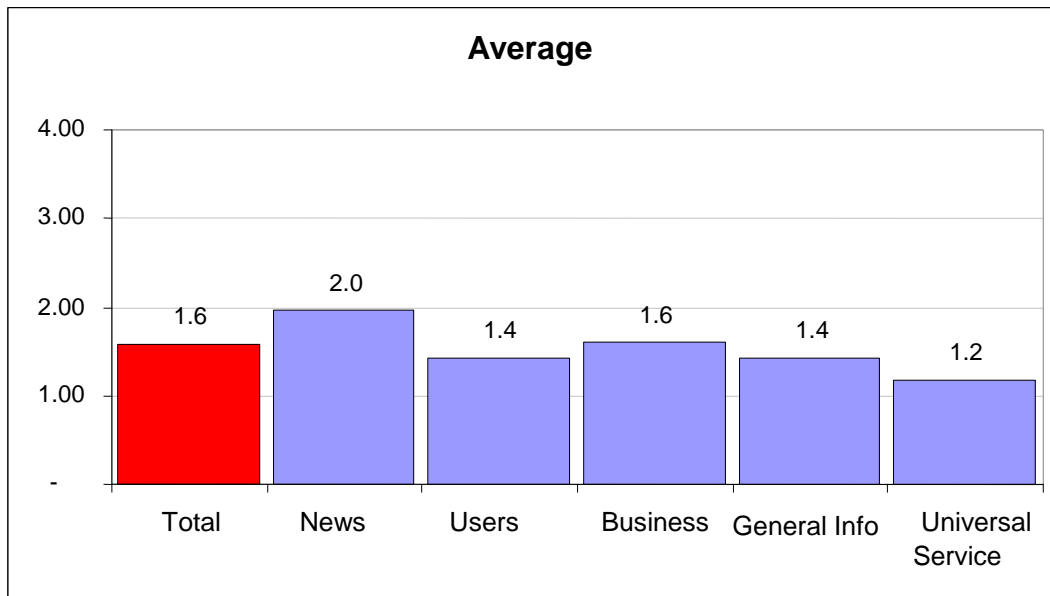


Figure 16. Regional average, by category

Evolution 2005-2008

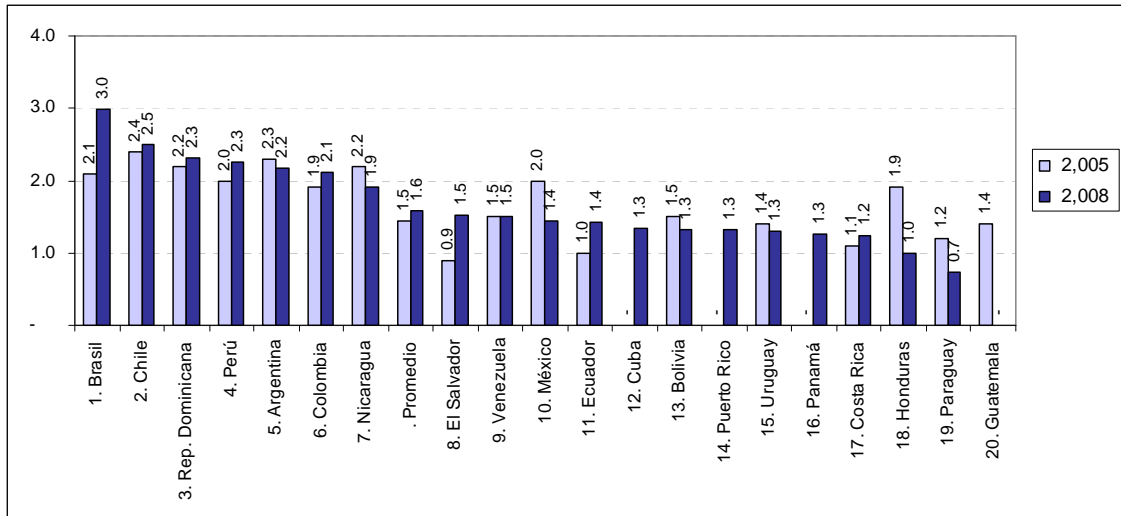


Figure 17. Comparison of 2005 and 2008 evaluations

In comparison with the evaluation undertaken in 2005, there are some interesting variations. In general, all countries' scores improved, which could be a sign of better use of websites by national regulatory authorities. Countries such as Brazil, El Salvador and Ecuador show significant improvement. Chile, the Dominican Republic and Peru show more moderate improvement. There are four cases of moderate backsliding (Argentina, Bolivia, Uruguay and Paraguay), and two cases of notable backsliding (Mexico and Honduras). The situation in the latter two countries occurred because the migration of their technology platforms happened to coincide with the evaluation period.

Although the regional average improved, increasing from 1.5 to 1.6, this progress seems almost imperceptible. This could be a weak sign of the beginning of a process of evolution from emerging to enhanced information sites.

Section 4. Conclusions

Conclusions

Currently the role of national regulatory authorities in the telecom sector is of unquestionable importance. Nevertheless, the level of responsibilities is directly proportional to the obligation to ensure information, accountability and transparent action. A liberalized market depends largely on the quality of information available about operations, efficiency in relations among those involved and the speed with which decisions are made.

In the information society, individuals and organizations need rapid, reliable, complete information. Citizens, businesses, investors and the government need NRAs to provide online information to support key processes such as: defense of users' rights, entry of new actors into the market, universalization of telecommunications, etc.

The increase in the supply of services and the entry of new operators into a competitive market allows users of telecom services to choose among more and better options. This greater supply, however, must be subject to more exhaustive quality control. To stay abreast of the conditions under which operators provide services, as well as underlying rights, the regulator must ensure a flow of updated, precise information.

The emergence of converged services, models for licensing them, the use of scarce resources and indispensable inter-network connections are aspects that operators must understand to make decisions about future investments, expansion of services, and creation of new products and packages. The regulatory authority website that provides reliable, complete information about these issues will contribute to maintaining a climate conducive to investment, thus decreasing regulatory risk.

Websites must not be viewed merely as tools for disseminating information, but as facilitators in managing relations with users, operators and the media. The design and structure of a website, therefore, must not be accidental, but must respond to the needs of the various stakeholders in the sector.

In Latin America, the national regulatory authorities have much room for improvement. They are still considered as '*emerging*'. Excellent individual practices explain certain specific initiatives, but do not add up to a regional process of evolution toward the subsequent stages of efficient use of technology. The goals of interactivity, and even more of transactionality, still seem a long way off in most countries. Moreover, the lag in several countries is alarming, and telecom regulators should become pioneers in the efficient use of ICTs in their own administration.

Recommendations

- National regulatory authorities must clearly identify the benefits that result from strategic use of their organizational websites, so as to allocate sufficient effort and resources to ensure the availability of the site, updating of information, quality of content and interactivity of the services.
- In function and outcomes obtained, national regulatory authorities should place greater emphasis on including information about the rights of users and consumers. They should also improve the quality and level of detail of the basic information needed by businesses and investors.
- Plans and policies for universal telecom service should have a prominent place on regulatory agencies' websites, particularly because these public policies and their implementation will contribute to an increase in the number of people who have access to information and online services.
- It is important to keep in mind that the correct definition of the information architecture for a website, as well as its functional design, require a user-centered strategy that makes it easy to find information, leverages participatory processes and includes interactive services supported by modern technologies that are currently available, but are under-used.
- Compliance with standards, use of open formats and compliance with norms for accessibility should also be taken into consideration in the design or redesign of a website. All of these conditions help ensure that the website facilitates the process of mediation between information and user.
- The results of this evaluation should be shared with the national regulatory authorities so that they can serve as input for beginning the enhancement of the structure and the redesign of agency websites.

Endnotes

¹ Interview with Manuel Castells by Milagros Pérez Oliva, published by the daily *El País* of Madrid and entitled, "El Poder tiene miedo de Internet" ("Power Fears the Internet"). The interview highlights the importance of education: "(...) without education, technology is useless. In Spain, the so-called digital divide is a matter of age. The data are very clear: among those over age 55, only 9 percent are Internet users, but among those under 25, the figure is 90 percent (...) When my generation is gone, there will be no digital divide in access. In the Internet society, however, the complicated thing is not learning to navigate, but knowing where to go, where to look for what you want to find, and what to do with what you find. That requires education. In fact, the Internet amplifies the oldest social divide in history, which is in levels of education. The fact that 55 percent of adults in Spain have not completed secondary school — that is the real digital divide." <http://portal.educ.ar>

² World leaders who promoted neoliberal policies, such as U.S. President Ronald Regan and British Prime Minister Margaret Thatcher, who governed in the 1980s.

³ *What Washington Means by Policy Reform*, which became known as "The Washington Consensus," was drafted by John Williamson in 1989 for a conference organized by the Institute for International Economics.

⁴ Stiglitz, Joseph E., *Globalization and Its Discontents*. Chapter 3, "Freedom to Choose?" p. 53.

⁵ Stiglitz, Joseph E., *Globalization and Its Discontents*. Chapter 3, "Freedom to Choose?" p. 54.

⁶ Stiglitz, Joseph E., *Globalization and Its Discontents*. Chapter , "Freedom to Choose?" p. 54.

⁷ Multilateral Trade Negotiations – Uruguay Round – Trade Negotiations Committee. The Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Marrakesh, 15 April 1994. The issues of Financial Services and Information Technology are introduced.

⁸ Stiglitz, Joseph E., *Globalization and Its Discontents*. Chapter 3, “Freedom to Choose?” p. 58.

⁹ Rozas Balbontín, Patricio, *Privatizaciones, reestructuración industrial y prácticas regulatorias en el sector telecomunicaciones*. Human Resources and Infrastructure Division, CEPAL, Santiago, Chile, June 2005.

¹⁰ *Ibid.*

¹¹ Rozas Balbontín, Patricio, *Privatizaciones, reestructuración industrial y prácticas regulatorias en el sector telecomunicaciones*. Human Resources and Infrastructure Division, CEPAL, Santiago, Chile, June 2005.

¹² “...low telephone penetration, inadequate levels of investment, serious technological backwardness and poor quality of services...” Information taken from the study by Patricio Rozas Balborín, *Privatizaciones, reestructuración industrial y prácticas regulatorias en el sector telecomunicaciones*, CEPAL Human Resources and Infrastructure Division.

¹³ http://www.citel.oas.org/what_is_citel.asp

¹⁴ http://www.citel.oas.org/sp/Connectividad/Final%20Spanish%20ACAPAO-march-5-2003-v3_e.pdf

¹⁵ See: www.comusuarios.gov.co

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Online resources

Inter-American Telecommunications Commission

<http://www.citel.oas.org>

Economic Commission for Latin America and the Caribbean

<http://www.eclac.org/analisis/>

Foro Latinoamericano de Entes Reguladores de Telecomunicaciones

<http://www.regulatel.org>

World Dialogue on Regulations (WDR)

<http://www.regulateonline.org>

Universidad de San Andrés – Argentina

<http://www.udesa.edu.ar>