Benchmarking Caribbean and North American National Telecom Regulary Authority Websites

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Introduction

In the post privatisation and competition era the telecommunications industry has entered a new phase of evolution, the converging of the once separate industries of telecommunications, information technology (internet) and broadcasting (cable television). This convergence has ushered in the information age where information communication and technology (ICT) is the new development mantra.

ICT is recognised globally as a key vehicle to foster economic development. As a result of this international development agencies such as the United Nations (UN) are focussing on ICT as a critical component of the overall development agenda.

The UN General Assembly in the World Summit on the Information Society (WSIS) clearly articulated the role ICT is expected to play in the new information society. As a consequence of this, action line C7 of WSIS Implementation Plan relates specifically to the role of ICT applications in a range of e-initiatives, including e-government. Governments around the globe have been developing e-government strategies with the hope of putting their countries on the path to reap the benefits of the information society.

As the implementing agency for government telecommunications policies national regulatory agencies (NRAs) are presented with new challenges and opportunities as they seek to ensure the orderly and sustainable development of the ICT sector.

In discharging their responsibilities the NRA can potentially use their online presence via website to:

1) Provide access to information and services.

2) Address the needs of their various stakeholders; including citizens, service providers, investors and the government.

3) Allow greater participation in the regulatory processes.

4) Demonstrate transparency in processes and transactions.

The effectiveness of NRA websites will depend on factors such as:

1) The level of access the general population has to ICT resources such as internet access and computers.

2) The literacy level and computer literacy of the population.

3) The availability of skilled resources to the NRA.

4) Overall transparency in the sector and access to operator information.

5) The extent to which the media and other intermediaries, such as NGOs, further diffuse the regulatory news and other information available on websites.

Given the link between economic development and access to and the use of ICT, governments and government agencies need to find the resources to invest in the infrastructure and other capacities to ensure that citizens have access to and the capability to use the technology.

Equally important, websites need to be effectively designed so that they can in fact enhance service delivery. Most NRAs do have a website. Very few, particularly in Africa, do not. But, some NRAs although they have websites, don't use them in an effective way and don't allocate resources to their development.

This chapter is part of a wider study, covering countries in Asia, Africa, North America, the Caribbean and Latin America. This section focuses on NRAs in Canada, the US and ten English speaking Caribbean countries (Antigua & Barbuda, Barbados, Bahamas, Cayman Islands, Dominica, Grenada, Jamaica, St. Lucia, St. Vincent & the Grenadines and Trinidad & Tobago). The Spanish speaking Caribbean islands of Cuba and Dominican Republic are included with the Latin American countries because of the language commonality and because they are members of Latin American Forum of Telecommunications Regulators (Regulatel).

The study seeks to assess the effectiveness of the web presence of these NRAs. The study focuses on the nature and quality of information they provide to their publics, the extent to which they use the technology in the various regulatory processes such as the administration of a complaints function, the provision of online forms, and in their day to day interaction with stakeholders.

Regional Overview

The countries included in this study are quite diverse in terms of the level of development in their telecommunications market and the maturity of their regulatory agencies. In the same vein, the telecommunications regulatory environment varies from country to country. Factors such as the level of privatisation and the level of competition within the market inform the regulatory environment and nature of the regulatory processes.

In the Caribbean telecommunications landscape, privatisation and the establishment of competitive markets is a fairly recent occurrence. The movement toward privatisation and competition resulted largely from the impetus of the World Trade Organisation (WTO) Commitments relating to trade in services, under which telecommunications fall.

From the late 1990s leading into the beginning of this decade most Caribbean countries started to privatise and develop pro competition policies leading to reform of their telecommunications sector. Table 1 gives information on the market access and regulatory structure of the islands included in this study.

In Antigua and Barbuda, Antigua Public Utilities Authority (APUA), a government controlled company, maintains a monopoly on local fixed telephone services. Cable and Wireless, the United Kingdom based telecommunications company, which has a long history in the region, continues to have an exclusive franchise on international voice calls, up until 2012. The monopoly on other international services has effectively ended with the landing of alternative international cable facilities by Southern Caribbean Fibre (SCF). However progress towards full liberalization of that market has been stalled, presumably to give the government controlled entity time to be competition ready.

Antigua and Barbuda also stands out as the only territory in the sample that does not have an independent regulator.

Four of the Caribbean islands included in the survey (Dominica, Grenada, St. Lucia, and St. Vincent and the Grenadines) are members of The Organisation of Eastern Caribbean States (OECS). The OECS is a grouping of nine[1] Eastern Caribbean states that are dedicated to economic harmonisation and integration for the economic, security and social development of their citizens. As part of this framework the OECS governments have set up the Eastern Caribbean Telecommunications Authority (ECTEL). ECTEL was established to coordinate and harmonize the development of telecommunications policies and regulations among the group of countries. ECTEL advises the national regulators in each of the member states. ECTEL has a website.

In addition to the ownership structure, the level and maturity of competition in the markets and the institutional frameworks, other factors such as availability of resources (financial and technical), the level of internet usage, internet penetration, and computer penetration, may impact the capacity and effectiveness of a NRAs website.

Table 1.				
Countries	**Structure of sector**	**Current status of market**	**Year competition achieved[2]**	**Type of regulator[3]**
Antigua & Barbuda	Public & private	Competition in mobile & internet	NA	Public Utilities Authority
Bahamas	Public & private	Duopoly in fixed, monopoly in mobile, internet liberalized	NA	Independent
Barbados	100% Private	Fully liberalized	2005	Independent
Cayman Islands	100% Private	Fully liberalized	2004	Independent
Dominica	100% Private	Fully liberalized	2003	Independent
Grenada	100% Private	Fully liberalized	2003	Independent
Jamaica	100% Private	Fully liberalized	2003	Independent
St. Lucia	100% Private	Fully liberalized	2003	Independent
St. Vincent & The Grenadines	100% Private	Fully liberalized	2003	Independent
Trinidad & Tobago	100% Private	Fully liberalized	2004	Independent

Table 2 gives some key ICT indicators for the islands included in the survey.

As is the case with sector reform where the successes to date are varied, access to ICT infrastructure is varied. It is also low in comparison to the levels in developed markets. As small island economies with limited financial, technical and skilled human resources, regulators face challenges in terms of resources available to allocate to the development and maintenance of websites. Regulators with more resources are likely to develop better websites.

In terms of the current regulatory agenda, Caribbean regulators are focussing on developing regulatory policies such as interconnection, price regulation, cost separation, number portability, quality of service, indirect access and universal service.

Governments and NRAs are also concerned about putting in place regulatory policies that encourage investments in ICT and ensuring that citizens have access to affordable internet (in particular broadband) access.

In comparison to the Caribbean region, North America markets have less resource constraints and have had a long history of privatisation and competition. In the case of USA, this dates back to the divestiture of The Bell System in 1984. The divestiture allowed for:

• The deregulation of the telephone equipment market;

• The establishment of a competitive long distance calling market;

• The requirement of equal access, where local telephone companies were able to provide their customers with equal access to national long distance and international services provided by the former Bell companies.

The 1996 Telecommunications Act ushered in a greater level of market competition as long distance carriers were no longer required to file tariffs with the Federal Communication (FCC), in order to effect rate changes. The FCC is an independent government agency that regulates interstate and international telecommunications and other media in the US market.

In as much as the regulatory environment is the product of the legislative and policy positions of respective governments, these legal and regulatory prescriptions are established within the context of social, economic and business imperatives.

The telecommunications industry is characterised by change. Technology has been a key change driver. The internet has revolutionized the industry at several levels: the way information is transported, the way we interface with the technology and the applications and services that can be provided.

Today, as a consequence of several industry drivers (privatisation, competition, technology changes) the US market is characterized by robust competition in all market segments.[4] Over 93% of US households are served by three or more wire line providers and 98% of the population is served by three or more wireless carriers. The US boasts 142 million internet connections which is one of the highest in the world. The regulatory agenda of the FCC includes:

• Ensuring access to reliable and affordable broadband services;

• Fostering innovation and offering customers reliable and meaningful service choices;

• Promoting efficient and effective use of scarce recourses such as spectrum.

The Canadian Radio-television and Telecommunications Commission (CRTC), like the FCC, is an independent regulatory agency, whose role is to interpret and apply telecommunications legislation within that market. The CRTC is a multi sector regulator and regulates the broadcasting industry as well.

Table 2. Key ICT indicators				
Countries	Fixed lines per 100 inhabitants	Mobile per 100 inhabitants	Internet per 100 inhabitants	Broadband per 100 inhabitants
Antigua & Barbuda	45.45	133.55	13.75	8.23
Bahamas	40.10	112.90	7.62	3.93
Barbados	50.14	87.76		20.45
Cayman Islands		76.64	Not available	Not available
Dominica	29.40	58.68	8.44	4.56
Grenada	26.74	44.59	7.03	5.35
Jamaica	12.85	93.74	3.19	2.97
St. Lucia		65.72	Not available	Not available
St. Vincent & The Grenadines	18.93	86.34	6.16	5.70
Trinidad & Tobago	24.29	70.58	4.75	1.17
				Source: ITU (data for 2007)

The passage of the 1993 Telecommunications Act, laid the framework for a more competitive market in Canada. At that time, all markets which were not subject to competition were opened to competition. Today the market is very competitive and has a variety of network service providers (wire line, wireless and IP based carriers), as well a wide array of telecommunications service providers.

Recent statistics show Canada placed at tenth in the world for the number of broadband connections per 100 inhabitants.

The areas of focus included in the Canadian regulatory agenda are:

- Ensuring that market forces prevail and the population has access to high quality and affordable services;

- Ensuring that as far as is possible market forces are relied on to achieve telecommunications policy objectives;

- Establishing a consumer protection agency;

- Reviewing the regulatory framework for wholesale services and the definition of essential services.

The market and the regulatory landscape of the countries included in this study are at varying levels of maturity. This exercise is seeks to determine how effectively they are using their websites to take forward their respective regulatory agendas.

Benchmarking

Methodological Comments

As described in Chapter 2, this study is designed to obtain an objective measure of NRA websites in terms of the depth and range of information provided across particular regulatory thematic areas, and in terms of the overall functionality of the website in supporting regulatory processes. Applying the methodology also used to assess Latin American and African websites in this volume, this chapter aims to measure the extent to which telecom regulators in North America and the Caribbean use their online presence to serve their various stakeholders.

The survey of the websites was done during the period of 14 April 2008 to 10 May 2008. In applying the methodology to the countries included in this assessment, there were several factors that could impact the results of the study. These are explained below with the hope of enhancing the quantitative assessment with a qualitative gauge.

The initial list of countries also included Guyana and St. Kitts & Nevis. Guyana has a Public Utilities Commission (PUC) but no web presence was identified and was therefore excluded from the study. The website for the NRA in St. Kitts & Nevis was not operational during the period of the assessment.

During the period of the survey, the Jamaican NRA, the Office of Utility Regulation (OUR), was in the process of re-launching their site. The site address remains the same; however, an advisory on the site indicated that the site was under construction and that there are some errors and omissions. Over the period of the survey it was obvious that more information was being added to the site. While there was no information on the site itself indicating why it was being re-launched, when contacted, an official at the agency indicated that over time it had become difficult to locate information on the site. He further indicated that the overhauling exercise is intended to improve the accessibility of information on the site and to generally allow for a better navigation experience.

The ECTEL members included in the survey have their individual websites. ECTEL also has a site. For the purpose of this study, the primary survey was carried out on the site of the individual NRAs. Where the relevant information resided on the ECTEL site and a link was established from the member country site, that information or process was treated as if it were on the site of the member country.

Where there are multiple agencies with responsibility for regulating different areas of the market, as in the case of Jamaica and Barbados the assessment includes the various sites.

Factual Information and News

Figure 1 shows the scores for the individual NRAs, both in terms of the overall score and the contribution of each of the items included in that category.

With the exception of Antigua and Barbuda, the other NRAs had information about their legislation and regulatory rules. This information was found to be up-to-date. For the Caribbean regulators this was in the form of copies of documents such as the telecommunications laws and other rulings. The information is presented in the form of PDF or Word document copies of the original. In comparison, the North American regulators present the information in web format rather than as copies of original documents. In the case of Canada, the CRTC site is linked to that of the Department of Justice, where the information is presented in a web page format with a table of contents. This allows the user to quickly identify and access the specific information required. There are also links to related information. The FCC uses a similar approach to present the rules and regulations on their website.

For the news sub-category, with the exception of Antigua and Barbuda, all the sites surveyed have a section for news on the main page. The information included are largely press releases from the agencies. The OUR in Jamaica has quite an extensive and varied news component. From the main page you can access the press releases page. From here you can access details of the various press releases. There is also an audio-visual section, where the user can access copies of presentations, audio files of the OUR's weekly radio programme, and video files of several press conferences. In the case of some of the smaller jurisdictions such as St. Vincent & The Grenadines, Grenada and Dominica the news component is actually a link to the news section of the ITU website.
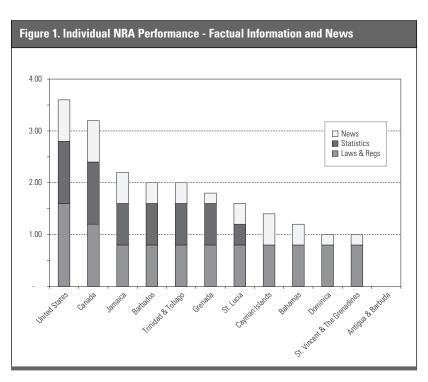
In addition to the news presented on the site, CRTC provides the capability for users to subscribe to news releases via email. The FCC scored the maximum four points for this item given facilities for users to get information via online recordings and the capabilities for video streaming of meetings and conferences. Additionally, using its electronic filing and public access systems the public can review and submit filings related to various proceedings.

Seven of the 12 websites assessed had statistical information and sector indicators. The US and Canadian sites are information rich in this area. In terms of the Caribbean regulators, the website for the Grenada NRA stands out by having a very visible section of their site for telecommunications statistics. Drilling down the user can obtain a market overview and relevant statistical information on that market. Jamaica and Trinidad & Tobago provide some amount of statistical information as part of their annual sector reports which are posted on the site.

In terms of overall score in the category, among the Caribbean regulators, Jamaica scores the highest, followed by Barbados. Interestingly these two countries have multiple regulatory agencies. It may be that because of this, comparatively more resources are available to the overall regulatory efforts in these markets.

This writer observed that the regulators in North America provide useful guidance to help the user to better assess the quality of the factual information provided. For example, the Canadian site makes specific statements as to currency of update and the source of the information, where they are not the custodians of the information. It gives a disclaimer regarding the accuracy of the information, notes that the information is for convenience purposes only and importantly refers the user to the official source of the information for purposes of interpretation. This is good value added feature, particularly where the information is being used for say research and other academic purposes. Additionally there are hyper links to related documents and related sites.

Figure 1. Individual NRA Performance - Factual Information and News

Consumer and Citizen Information

One of the key responsibilities of a national regulator is to ensure that consumers have adequate information about the products and services they purchase from the various operators, and that they know their rights and privileges. The regulator also has the responsibility to ensure that citizens are informed and encouraged to participate in the development and implementation of industry policies and rules. To effectively carry out theses functions the regulators have to put mechanisms and processes in place to ensure end users have access to reliable and up-to-date information and that transparent processes are in place to deal with issues such as consumer complaints. Used appropriately websites can be an invaluable tool in discharging these responsibilities.

Figure 2 gives the total and breakdown of scores for the consumer and citizen information section of the survey.

The FCC and CRTC sites scored 3.6 in this category. Both sites have an area dedicated to consumer affairs. From the main FCC page there is a link to the Consumer & Governmental Affairs Bureau (CGB) which has responsibility for developing and implementing consumer policies. Guided by the headings the user can drill down further to get to the specific information required. There is a wide range of consumer publications online with links to the related advisories. Through the customer information registry various interest groups including customers can request a range of information through a secured web portal.

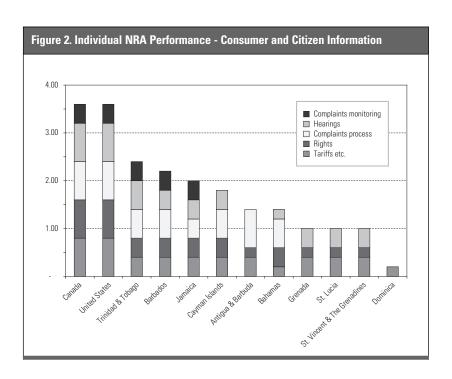A notable feature of the CRTC site is that in addition to allowing online access to information on ongoing public hearings, it facilitates participation via online forms, where comments can be written and uploaded. One can also register online to have a telephone number removed from telemarketer's lists.

In using these sites, one gets the impression that you could actually interact with the regulator without actually having to make a visit to the physical location.

In doing the survey I had the occasion to request some information from the CRTC via the online customer enquiry facility. Almost immediately I received an automatic confirmation that my message was received. I was also informed that my query would be addressed within ten working days. I received a response within three working days.

One drawback with both the FCC and CRTC sites is that because of the wealth of information on the site, the online experience could be intimidating to the average user. For example I found that information on product tariffs and numbering plan information was not as easy to locate as compared to the websites in less developed markets. While the maturity of competition in these markets could mean that these issues are more stable (for example pricing decisions are more a function of competitive market forces than the result of regulatory intervention) consumers desire this type of information. Information on regulatory issues which are more alive in these markets (e.g. wireless number portability) is more visible.

On average, the Caribbean regulators tended to provide enhanced content with regularly updated and clearly explained information in this area. However the range is quite wide, Dominica with a score of less than one and Trinidad & Tobago with a score of 2.4. With the exception of Dominica the other

Figure 2. Individual NRA Performance - Consumer and Citizen Information

Caribbean NRAs included in the study had reasonably good information on prices. Other customer related information is available at a minimum through the Frequently Asked Question (FAQ) feature.

Forty percent of the Caribbean NRAs have an online component in their consumer complaints process where one can submit the complaint online or submit questions. While doing the survey I had occasion to send a question to the St. Vincent regulator via the online facility. I received an email response in two working days. In one or two instances (e.g. The Bahamas) I was not able to effectively verify if the facilities to submit questions and or comments worked, as I did not get a response (auto response or otherwise) having clicked the button to submit the question.

Where the consumer affairs function is part of the regulatory agency's function, information such as complaints tracking tends to be provided, as is the case in Jamaica, Barbados and Trinidad & Tobago. Where this is not the case such as for the Cayman Islands, this type of information is not included.

In terms of the mechanisms used to elicit public participation in the development of regulatory policies, the two approaches normally used are public hearings and public consultations. A public consultation involves an oral proceeding where members of the public are invited to gives their views on an issue under consideration. Normally the regulator would present its policy position and the public (including entities participating in the industry) would be asked to present and defend their position.

On the other hand a public consultation is a written proceeding. Stakeholders participate in the process of policy development through written responses to policy papers put out by the regulator. Normally there are several rounds of responses. Initial responses are invited on the draft policy document put out by the regulator. The regulator uses the first set of comments to inform and update their policy paper. The redrafted document is re-circulated for further comments. These additional comments are used to further refine the final policy positions which are used as the basis for rule making.

Some regulatory agencies use both processes while others use one. Whereas public hearings are a feature of the policy formation process in North America, this is not always the case in the Caribbean. Of the Caribbean regulators included in the study, Barbados uses public hearings as an integral part of the regulatory process. The other jurisdictions tend to favour public consultations to solicit feedback to inform policy development.

For the purpose of this survey the focus is on the intent of the process. Therefore where the intent is for the public consultation process to be inclusive, that is, the general public and not only industry participants are invited to participate in public consultations, a public consultation process is treated the same as a public hearing process.

Regardless of the processes used (consultations or hearings), the NRAs have on their website guidelines for conducting these processes. Information about specific processes is

also available online including dates for responses. In the case of public consultations, the documents can be downloaded from the NRAs website. In this area the NRAs are effectively using their websites to facilitate participation in the regulatory process.

While outside the scope of this current study, the effectiveness of either process (consultations vs. hearings) in the Caribbean context merits further study.

To allow for an inclusive process, questions that arise include:

1) The accessibility of the information to the general public;

2) Whether literacy levels impede participation in the written process;

3) Is the oral process any more effective, given cultural tendencies of public inertia in such matters?

Business Information

For the business information category, what stands out is the fact that this is one of the areas where the gap between the more mature markets of North America and the less mature Caribbean markets is narrowest in terms of the overall scores for each NRA. Of note is the fact that a small Caribbean markets such as St. Vincent & the Grenadines scores 2.8 points. A possible explanation is that Caribbean regulators are putting some focus into the effort to reform their markets and this is reflected in their online presence. Whatever the reason the Caribbean regulators are clearly making an effort to give investors, and the business community in general, access to information about their markets.

With the exception of Antigua Barbuda (where the government controls the major segments of the market) all the regulators have available online information related to their licensing regime. This includes the facility to download forms required to apply for licenses. Barbados, Jamaica, St. Vincent & the Grenadines, in addition to the Telecommunications Act, include information on licensing fees, details on the procedure for applying for licences, and online licensing application forms.

In the area of equipment certification 70% of the Caribbean regulators scored 3 and above. The Telecommunications Authority of Trinidad & Tobago (TATT) demonstrates best practise in this area. A customer requiring equipment to be certified can complete this activity by emailing the completed form to the authority. This is an indication that with little effort regulators in small states can move their online presence to the transactional end of the spectrum.

Information on public consultations / public hearings is generally available online. Eighty percent of NRAs in the region provide consultation documents and other related information on their sites. Users can download the documents if they so desire. A similar situation obtains with regards to spectrum

management; fifty percent of NRAs have an interactive online presence as users can download the required information and forms to access this service.

In the area of business information, North American regulators CRTC and FCC use their web presence to complete transactions. For example CRTC uses an electronic credentialing system "epass" to allow online communication.

To conduct business with the FCC users have the register with an online system (CORES). Upon registration users are allocated a unique identification number which is required in order to conduct business with the commission. Online functions include:

• Registering online to use the online facilities

• Applying for licenses and other related transactions

• Search for information

• Filings

• Pay fees

Additionally the FCC Electronic Filing & Public Access Systems allow the public to submit and review a range of FCC proceedings.

General Information

This section looks at the layout of the website: how user friendly it is to navigate, the organisational structure and availability of contact information for key officials. The overall scores plus the contribution of each element are shown in Figure 4.
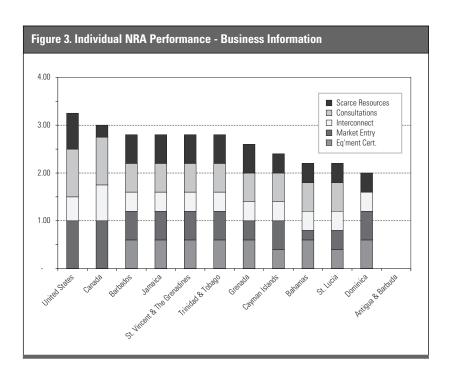
The Cayman Islands, the smallest country (in terms of population) in the sample scores the highest in this category. However, of the Caribbean countries included in the sample it has one of the highest gross domestic product (GDP) per capita.

All the regulators included in the study provide some level of information about their mission on their website. In outlining its mandate, CRTC effectively uses hyperlinks to tie its mandate to the various enabling legislations. The FCC uses a similar approach with links to additional information about its commissioners and the various departments that make up the commission. This is a very helpful feature.

Only in the North American context was the issue of language relevant. CRTC's website is in English and French. This is understandable as Canada has two official languages. In the case of FCC only the "Consumer Centre" area of the site is available in English and Spanish.

Ten of the twelve sites surveyed provide links to sites of other local and international organisations. APUA provides no links. The FCC site does not have a specific page with links to external local or international agencies, only hyperlinks to related agencies such as Lifeline Across America. This is a universal access type programme, which seeks to ensure that everyone has access to telephone service. Grenada, St Lucia, St Vincent and Trinidad & Tobago provide good examples of links as the available links are categorised by types, e.g. local, regional and international.

Ten of the sites surveyed use other navigation tools such as search engines and or site maps to help the user around their

Figure 3. Individual NRA Performance - Business Information

sites. The NRAs of Dominica and Grenada do not employ these tools on their site. The FCC and CTRC used both tools. Caribbean regulators show a preference for the use of search engines with seven opting for search engines and one using a site map. Unfortunately in the case of St Lucia and St Vincent the search feature did not work.

Half of the sites surveyed provide users with specific contact details to key personnel within the NRA. Generally the other half just provides general contact information such as a general email address or that of the person responsible for maintaining the site. If regulatory agencies are to effectively carry out their functions, accountability and transparency are key attributes. As such, specific information about the individuals responsible for key roles and information on how to contact them will help to facilitate accountability and transparency. Among the Caribbean regulators, the FTC in Barbados and NRAs in St Vincent & the Grenadines, Dominica and Cayman Islands provide good examples in this regard as they provide the names and contact information (at least email) for key officials at the agencies. The site for the regulator in Cayman for example, gives the positions, the name of the incumbent and both email and telephone contact.

In terms of general organisation, Caribbean websites tend to be structured more around publications or around policy themes. For example on the OUR's site, the sub headings under the telecommunications page are as follows:

- Consultative documents

- Responses

- Proposed Rule Making

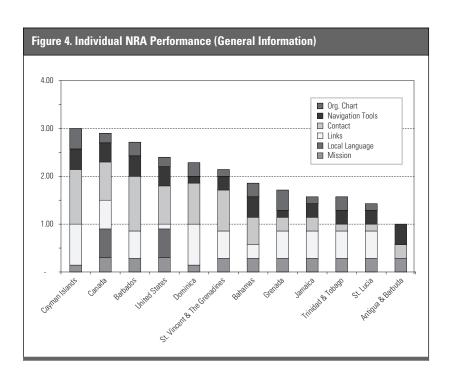- Determination Notices

- Reconsiderations

- Licensing

On its main page TATT has headings like publications and forms and the page is full of links to various documents.

In comparison CRTC's website is more aligned to the main functions of a NRA. From the main page you can link to:

- Complaints and inquiries

- Consumer information

- Online services

- Public proceedings, etc.

As such, the site is organised around the functions and services that the agency provides. In other words, the way in which the user interfaces with the site tends to mirror the service flow rather than the document flow. It is my view that this format presents a more service oriented face to the public.

The FCC website is structured in such a manner that the user is guided to the location of the information. This is done in much the same way as books and other materials are catalogued in a physical library. Another helpful feature is that there is evidence that in cases where information has be relocated on the site or moved to another site, linkages to the new location are provided. This is important given the dynamism of the ICT sector, change is a feature of the day-to-day experience.

Figure 4. Individual NRA Performance (General Information)

Universal Service / Universal Access

Of all the categories surveyed, this proved the most challenging to source a meaningful body of information. Eleven of the twelve sites provide varying levels of information on this area. The overall scores are shown in Figure 5.

Generally the Caribbean regulators provide such information in the form of past consultations or draft policy documents. The Dominica NRA simply has a general link to the ECTEL site, no specific reference to this and other consultations are made on the site, despite the fact that there is an area marked for current consultations and recent documents.

The websites of the other ECTEL members provide information on a recently concluded public consultation on universal service regulations. A copy of the draft policy document was either on the website of the individual member states or a link was provided to the document or just to the ECTEL site in the case of Dominica.

In Trinidad & Tobago the work done to date on the issue of universal service or universal access has been carried out by the ministry with responsibility for telecommunications. TATT has made comments on the issue in various consultation documents and is expected to commence consultation on the issue

The FCC provides information on policy and provided a link to Universal Service Administrative Company that gives information on various programmes. CRTC also provide policy information in various documents.

With market convergence, the concept of universal service or universal access is also undergoing change. The current discourse speaks of universal service in terms of the availability and affordability of broadband access. This may to some extent explain the generally outdated and or fragmented view of this type of information.

Overall Scores

Both FCC and CRTC have scored above 3, firmly identifying their respective websites as being at the interactive level and in some areas they operate at the transactional level. Three of the ten Caribbean countries (Barbados, Jamaica and Trinidad & Tobago) score just above 2, indicating that overall the online presence in these jurisdictions are at the enhanced level, where updated information is available in the web environment. There are also some interactive capabilities being developed. The Cayman Islands score slightly below 2, and is essentially at a comparable stage as the first three. The NRAs in the OECS countries of Grenada, St Vincent & the Grenadines and St. Lucia score over 1.5. The score for The Bahamas is also in that range. The other OECS country in the sample score about 1.2. Antigua & Barbuda receives the lowest overall score, which is below 1.

Figures 7 - 9 show how the regulators in various groupings (ECTEL members, other Caribbean and North American NRAs) score against the ideal framework developed for this study.

The overall score is intended to get to a quantitative measure to capture the overall effectiveness of the websites in the various countries. However this one value does not portray some notable features on the various sites.

Conclusions & Recommendations

Fourteen websites from twelve countries or markets were reviewed. Of the twelve markets assessed, ten are fully liberalised while two are predominantly government controlled, with pockets of competition in some segments of the market. Eleven of the markets surveyed have an independent regulatory agency and in some cases multiple agencies.

Antigua & Barbuda is not fully liberalised and the only market without an independent regulator. It is also the market with the lowest overall score. The score is also markedly below that of other similar size economies and markets within the region. Although this one instance is not adequate to make a generalised observation, it does tend to support the view that where the government performs the role of owner and operator of telecommunications networks and services plus determines and implements policies, the level of regulatory oversight is limited at best. This seems to extend to the online presence as well.

Of note too is the fact that Guyana, which still has significant government ownership and control in major market segments, does not have a known online regulatory presence. This further supports the view that there is a direct correlation between level of privatization and competition in a market and the rigour and transparency of the regulatory processes. This seems to obtain even in the face of online capabilities, which can be used to improve the transparency and accountability in the regulatory processes.

With regards to regulatory models, of the ten Caribbean NRAs included in this study, only the Cayman Islands and Trinidad & Tobago have a single regulator covering the full range of regulatory issues; economic, technical and consumer affairs. For the other islands there are multiple agencies with responsibility for specific areas. Based on the results the regulatory model (single vs. multiple agencies) did not seem to have an impact on the level of development and effectiveness of the NRAs websites. Maybe the fact that an effort was made to include all the relevant agencies where multiple agencies exist would mask any potential differences.
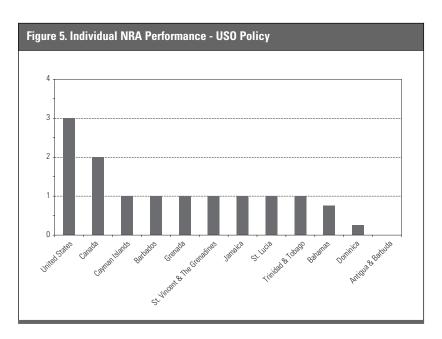
A notable observation is that in multi agency environment in the Caribbean, features such as hyperlinks are not used sufficiently if at all to provide the user with ready access to information on separate sites. In the case of Jamaica, for example, there are three regulatory bodies (OUR, Spectrum Management Authority (SMA) and Fair Trading Commission (FTC).[5]
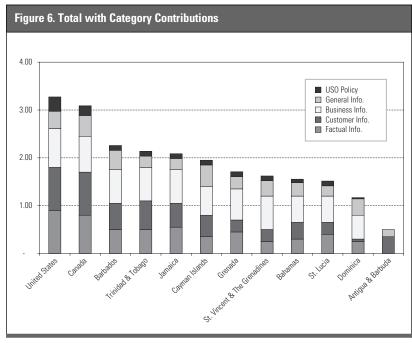
However, the OUR does not provide a link from its site to either of the other two agencies. The SMA provides links to both of the other agencies. In the case of Barbados the FTC provides a link to the Telecoms Unit, however there is no link from Telecoms Unit to FTC

Although it was not one of the main sites reviewed the ECTEL site provides an interesting case. On that site the laws and regulations of member states are provided. Given the structure and the interrelatedness of the individual NRAs to the regional regulator, very limited use is made of automatic linking or hyper linking the information of the respective NRAs to that of ECTEL.

Within the context of multiple regulatory agencies, websites offer a golden opportunity to present a seamless presence to

Figure 5. Individual NRA Performance - USO Policy

Figure 6. Total with Category Contributions

the user, through linking of sites and effective use of hyper-linking. This is very easy and inexpensive to achieve. It is recommended that tools such as hyperlinks are used more effectively to create easy access to related information on the sites of related agencies. The North American markets offer good examples in the use of this approach.

In the area of factual information all the sites (except Antigua & Barbuda) have good to fair representation of information especially legal, regulatory and news. Five of the twelve jurisdictions have scores at or above the enhanced category. Of the five, Canada and USA have scores in the interactive range.

With respect to the Caribbean markets, the area in which there is the least development is in the area of statistical information. In five of the ten markets, there is no evidence of market statistics on the sites. Four countries (Barbados, Grenada, Jamaica and Trinidad & Tobago) got scores that rate them in the enhanced category. There is room for improvement in this area.

Several of the sites have a specific area dedicated to customer information. Where this occurs there tends to be more emphasis on consumer related information. The North American regulators provide good benchmarks in this area. The Barbados FTC, St Lucia and The Bahamas have a section dedicated to customer information.
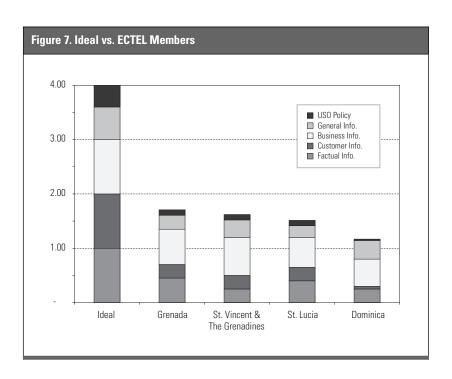
Capabilities for providing information on prices and other customer rights information are generally well-developed across all the NRAs. FAQ format is a popular mode for providing non price rights information. Ten of the twelve sites provide information on public hearings / consultations. The more developed markets of USA and Canada effectively use their

web presence to facilitate transactions such as electronic filing of feedback in consultations and the processing of licensing. The Caribbean is also highly capable in this area with eight of the ten countries graded at the interactive level as they provide facilities to download information needed to participate in consultation processes.

The function of addressing and providing visibility of the resolution of consumer complaints is an application which I believe NRAs could use to encourage the average citizen to interface with the agency online. Thirty three percent of the sites surveyed did not have information about a customer complaints process. Of those with a customer complaints process, eighty eight percent have an online element, where the user can at a minimum download a complaints form. Fifty eight percent of the sites had no information on complaints monitoring.

Where internet and computer access is not pervasive, there may be concerns as to the accessibility of such key information to the average citizen. Nevertheless, NRAs should not use this as a reason for not having such information and processes online. This development should be encouraged, as it can be used as a tool to encourage the use of information and communication technology by the general citizenry.
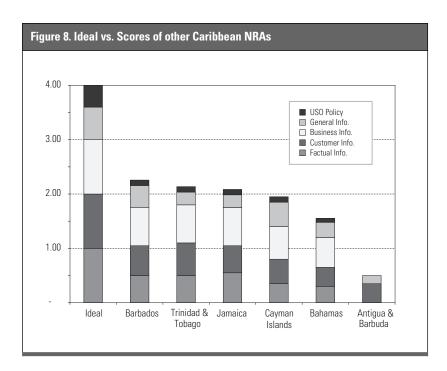
In the business information category, with the exception of Antigua & Barbuda, the other countries score at or above the enhanced level. Particularly in the areas of licensing and equipment certification there are several instances where Caribbean NRAs are using their websites in an interactive mode to allow businesses to download application forms. Here, the performance of the Caribbean regulators demon-
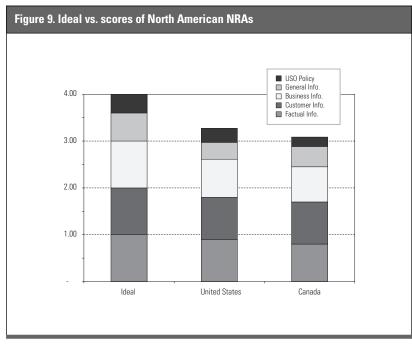

Figure 7. Ideal vs. ECTEL Members

strates how small economies can use the technology to improve their competitiveness.

In the general information category Cayman Islands attains the highest overall rating. All the sites have the NRA's mission statement. Over 80% have links to other sites and use tools such as site maps and search engines to facilitate easier navi-gation. Only 50% of the sites have specific contact details for key officials at the agency. This is an area that needs improve-ment, and can be done with very little effort.

A notable best practise observed on the North American websites is that they are organised more around the functions and services that the agency provides, and less around policy

Figure 8. Ideal vs. Scores of other Caribbean NRAs

Figure 9. Ideal vs. scores of North American NRAs

themes and publications. This structure more effectively captures the process flow in terms of how the various publics interact with the regulator. As such, they present a more service oriented face to the public. I would therefore recommend this approach to NRAs that are redesigning their sites or those establishing sites for the first time.

From the survey it is clear that all the NRAs are using their web presence to enhance their service delivery. They are achieving varying levels of success. Individual agencies can improve their website by adopting the best practises from other agencies.

Notes

[1] The OECS countries are Antigua & Barbuda, The Commonwealth of Dominica, Grenada, Montserrat, St Kitts & Nevis, St. Lucia, St. Vincent and the Grenadines. Anguilla and British Virgin Island are associate members.

[2] The year in which full market access was legally permitted.

[3] The way in which the independent regulatory institutions have been established in these markets vary. In Barbados the FTC is responsible for price regulation, competition issues and consumer protection, while the Telecommunications Unit in the Ministry of Energy and Public Utilities is responsible for regulating the technical aspects of the sector.
   In Jamaica the responsibilities are shared among the OUR, FTC and the SMA. The OUR has responsibility for economic regulations (price, quality etc), FTC for general competition issues and SMA has responsibility for radio frequency and spectrum.
   In Cayman Islands ICTA regulates the entire industry. In Trinidad & Tobago TATT also regulates the entire industry. In the OECS, there is a regional body, ECTEL, which is responsible for coordinating and harmonising the policies and regulations of the five member states, Dominica, Grenada, St. Lucia, St. Kitts & Nevis and St. Vincent & the Grenadines.

[4] http://www.fcc.gov/Reports/ar2007.pdf

[5] The Fair Trading Commission in Jamaica has responsibility for general competition issues and is not an industry specific regulator. However, the OUR is expected to collaborate with the FTC on issues that touch on general competition rules.

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