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Discussion Paper WDR0605

**Benchmarking National  
Telecom Regulatory  
Authority Websites:  
A Survey of Websites of  
Telecommunication Regulators in  
the Asia-Pacific Region**

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Comments invited, please post them to the author or online at:  
<http://www.lirneasia.net/2005/08/benchmarking-asia-pacific-telecom-nras/>

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The World Dialogue on Regulation for Network Economies (WDR) facilitates an international dialogue to generate and disseminate new knowledge on frontier issues in regulation and governance to support the development of network economies.

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Abstract:

A National Telecommunication Regulatory Authority, like any other government organization, uses its website not only to deliver citizen services but also to transact with its stakeholders in many different ways. This study benchmarks such websites in the Asia-Pacific region, evaluating their usefulness to telecom operators, investors, consumers, researchers and even the general public. Each website is awarded marks for the availability of information and features that are useful to the regulator's stakeholders. A total of 27 websites are evaluated from a region that includes 62 economies. The results are presented individually as well as under different country clusters.

Abbreviated Article Title:

Benchmarking National Telecom Regulatory Authority Websites of the Asia-Pacific Region

## **1.0 Introduction**

### **1.1 E-government as an NRA delivery channel**

The model of e-government is significantly different from the traditional model of government. In contrast to the way that government services have been delivered for centuries, today government agencies are expected to deliver information or services through electronic means, at any given place, round the clock, often with value added services. In this model a government is expected to incorporate all three kinds of interactions – government to citizen (G2C), government to industry or business (G2B) and inter-governmental dealings, frequently referred to as government to government (G2G) – into a single mechanism. Leveraging the Internet economy, governments both in the developed as well as developing world are now busy transforming these three relationships by providing universal, anytime-anywhere access to all government information and services.

A government agency's website <sup>[1]</sup> is a key window through which the true spirit of e-government can be realized. A well-constructed website provides citizens and other stakeholders one of the best interfaces with a government agency. It allows for self-service, whether a citizen wishes to find a particular piece of information, perform a transaction or obtain a copy of a certificate. It is available round the clock and does not force a citizen to waste time waiting in queues. In addition, companies can search for opportunities with government, search for information and even apply for certain facilities on-line. In short, a website is a virtual representation of the entire organization in cyber space.

The next step on the e-government ladder is the virtual organization. In this model, the website is much more than another window to an organization; the website itself will be the organization. It

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<sup>[1]</sup> Sometimes the term 'web portal' is used to define this electronic window that offers all citizen services of a government agency, however in this study, the term 'web site' is used, as 'web portal' has other meanings in the computer literature.

is immaterial to the stakeholders where the organization is physically located. The stakeholders, particularly the general public, do not have to physically visit the organization. Instead, they interact with it electronically. So the website of an organization – or in broader terms, whatever the form of its Internet presence in future – becomes the nucleus of an organization that binds the rest of its stakeholders together.

As Mahan correctly identifies, the importance of a National Telecommunication Regulatory Authority website can never be underestimated. (Mahan, 2004) A National Regulatory Authority (NRA) is one of the key government agencies in any country. It is the apex body that is largely responsible for the healthy growth of the telecommunication sector and the diffusion of telecommunication services to the public at all levels. It serves a large group of stakeholders varying from citizens to businesses and prospective investors to incumbent telecom operators. The website of an NRA serves as an information gateway to all interested parties.

In addition to serving as an instrument for transparency and accountability, a well-designed and informative website can also demonstrate the extent and facility with which the NRA uses the technologies and services it regulates. A well-maintained website increases confidence in the regulator's skills and capacities. Moreover, an effectively run website with useful, up-to-date information and functionality can be an effective communication tool that not only speeds up communication, but decreases time and costs incurred for regulatory compliance. (Mahan, 2004)

## **1.2 Benchmarking of e-government initiatives**

Return on investment is not necessarily the prime objective when e-government projects are conceived. Sometimes e-government projects are driven by goals of achieving operational efficiency and effectiveness in service delivery. On the other hand, financial constraints are common within government, hence there is increasing demand to re-examine their budgetary priorities. Furthermore, e-government programs are subject to scrutiny as to whether they deliver the promised payoffs or not. Such situations call for detailed evaluation of e-government efforts.

Three specific levels have been identified that require evaluation of e-government initiatives. The first one is the assessment of the e-readiness of a state or region. The second is evaluating the performance of a specific e-government program or project and the third is the overall impact of e-government on general government functioning, economic development and services to the citizen. (Gupta, Kumar and Bhattacharya, 2004)

## **2.0 Methodology**

### **2.1 Previous initiatives on parallel lines:**

For its methodology and structure, this website survey has been largely guided by two previous studies given below:

- (i) United Nations Division for Public Economics and Public Administration (UNDPEPA) and American Society for Public Administration (ASPA) (2001) '*Benchmarking E-government: A Global Perspective - Assessing the Progress of the UN Member States*' Final report was authored by Stephen A. Ronaghan (Hereafter referred as the 'UN study')
  
- (ii) World Dialogue on Regulation for Network Economies (WDR) (2004) '*Benchmark indicators for African NRA websites*': A report on the website survey conducted by Amy Mahan (Referred as 'WDR study')

The goal of the UN study was to objectively present facts and conclusions that define a country's e-government environment and demonstrate its capacity to sustain online development. This was accomplished by a comparative analysis of fundamental ICT indicators and critical human capital measures for each UN Member State. An important outcome of this study was a final measure, the E-Government Index, which can be useful tool for policy-planners.



In determining what defines an enabling environment, the UN study has analyzed critical factors by benchmarking the core areas endemic to national e-government programs. The final measure, E-Government Index, attempts to objectively quantify these factors, and establish a 'reference point' for which a country can measure future progress. The E-Government Index presents a more inclusive and less subjective measure of a country's e-government environment. It incorporates a country's official online presence, evaluates its telecommunications infrastructure and assesses its human development capacity.

The WDR study, which is more relevant to this website survey, benchmarks the websites of independent National Regulatory Authorities (NRAs) of 22 African states. This study has grown out of a collection of preliminary regional surveys examining the extent to which NRAs were using websites to inform and communicate with the public – including citizens, businesses and other governmental and non-governmental organizations. The WDR study also introduces and tests a new indicator for ranking NRA websites. This measurement is an attempt to capture the incidence of different aspects that are important for NRA web presence.

Mahan acknowledges that a website presence indicator for NRAs cannot capture overall effectiveness, efficiency or transparency of the regulator; however, what the benchmarking process does attempt to do is to clarify categories of information and their respective users, and to indicate responsiveness and interactivity in providing information.

The UN study classifies all governmental services under one of three fundamental categories: informational, interactive and transactional.

The first, informational, is by far the most significant. Information is at the heart of every policy decision, response, activity, initiative, interaction and transaction between government and citizens, government and businesses and among governments themselves. Thus how an e-government website presents information is a significant indicator of its effectiveness.

Furthermore, since services are the public face of government, another primary objective of all government websites that offer electronic services is to provide the citizen with an efficient alternative medium for interacting with public sector service providers. This is generally accomplished by improving the flow of information both externally (G2C and G2B) and internally (G2G).

Finally, government websites that offer electronic services are also expected to provide transactional services to reduce inconveniences faced by citizens when attempting to avail of government services in the 'traditional' manner. At the transactional presence level, a country fully demonstrates its capacity for users to interact with the government, when its citizens are for instance able to obtain a passport, or pay for services online with either a credit or debit card, or by some other electronic means. However, only a handful of nations have reached this level. The UN study names 17 such countries.

Unlike the UN study, the WDR study places more emphasis on the provision of information services. It is likely that this is because from the NRA as well as its stakeholders' point of view, it can be the most important service to be provided by an NRA site. This study too follows the same approach.

Initially, the author planned use the following definitions of the parameters that measure 'e-readiness' introduced by the UN study and modified in the WDR study to suit NRA sites:

- Emerging: Only basic and largely static information is available.
  
- Enhanced: Content and information is updated regularly, and information is available not only in its original format (such as acts and legislation) but is also explained and digested.

- ❑ Interactive: Users can download forms, contact officials and make requests. Available information has further value-added, such as hyper-links to relevant legislation.
- ❑ Transactional: Users can submit forms online – for example to request information, or to submit a request for a license form.

However, preliminary web research revealed that:

- (a) Not all Asia-Pacific NRA websites considered can be clearly placed into one of these categories. The boundaries were somewhat vague; there were many websites that might fall in between categories.
- (b) This was not the only approach that could be used to evaluate the effectiveness or usefulness of an NRA website. For instance, it could be possible that an NRA website which is still in its 'enhanced stage' can be more effective / useful to its stakeholders than another website which is in the 'interactive' or 'transactional' stage.

Therefore, it was decided not to use this general qualitative classification to rank the NRA websites. A more comprehensive and meaningful quantitative making scheme has been used for the purpose.

## **2.2 Selection of countries**

In selecting the countries, every effort was made to include the maximum number of countries in the Asia-Pacific region and ensure representation of:

- ❑ Each sub-region in Asia-Pacific (East Asia, South East Asia, South Asia, Pacific, Central Asia and Middle East)
- ❑ Countries at different levels of development and

- Countries at different levels in their human development achievements

However, once it has been determined which countries fit eligibility criteria, these three conditions may not be satisfied, as information on the NRAs of some of the countries was not available and in some cases the NRA websites had not yet been developed to a level where they could be fairly evaluated in this survey.

The method of selection is given below:

- (i) For the purpose of this survey, 'Asia' was broadly defined as the group of countries in the region confined by the countries Russia, Turkey and Egypt and Indian and Pacific oceans including the island nations in the said oceans.<sup>[2]</sup> This group with the pacific countries, formed the first list of countries and included 62 different independent territories. The recognition by UN was used to decide whether a country is an independent territory or not.
- (ii) Each of the above 62 countries was then checked for information on the telecommunication regulator at the International Telecommunication Union website. If the regulator information for a country was not available, that country was removed from the list.
- (iii) At this stage, no effort was taken to decide whether the NRA is independent or not for two reasons.<sup>[3]</sup> One was the difficulty in drawing the line between the 'independent'

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<sup>[2]</sup> This definition is used by LIRNEasia

<sup>[3]</sup> This is one instance this study deviated from the WDR study, which only considered the web sites of the 'independent' NRAs for the survey.

and 'not independent' NRAs. The second and perhaps more important reason was that this survey was not intended to evaluate the performance of the NRAs per se, but rather an effort to evaluate the performance of the websites of NRAs. So even if some other government agency (usually a ministry) is engaged in carrying out the duties of an NRA, it was considered for benchmarking purposes.<sup>[4]</sup>

- (iv) The remaining countries were then checked for availability of an NRA website. It was found that several NRAs did not have a web presence as yet. In two cases, the available link did not work. In both cases Google searches were conducted to obtain an alternative website, but were unsuccessful.
  
- (v) Then it was checked whether the websites are developed to a stage where it is fair to evaluate them in a competitive survey. For instance, the sites were still under construction, so it would have been unfair to evaluate them at this stage, as in the case of Syria. Furthermore, in case of some other countries (especially when the NRA is not independent) the websites were found to be inadequate to be considered as NRA sites.<sup>[5]</sup> Such countries were eliminated from the list.
  
- (vi) Finally, five NRAs websites were removed from the list, purely due to a practical limitations. These five NRAs, namely those of Armenia, China, Indonesia Thailand

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<sup>[4]</sup> Some such agencies were later eliminated from the list, for different reasons however.

<sup>[5]</sup> Japan, New Zealand and Tonga are the best examples; in these cases, the role of the NRAs is played by Telecommunications Bureau, Ministry of Public Management, Home Affairs, Posts and Telecommunications of Japan, Commerce Commission of New Zealand and Prime Minister's Office of Tonga, respectively.

Though these agencies are responsible for some duties of an NRA, it is not fair to evaluate their websites against other NRA web sites.

and Yemen did not have English versions of their websites. This is not to say that it is a necessity that every country should have an English version of the website. South Korea does have an English version site, but it was clear this site could not be an exact replica of the local language site, so it too was not considered for evaluation.

As a result, 27 NRAs were found to have eligible websites, which can be evaluated in this preliminary study. The complete results are given in Annexure 1.

### 2.3 Clustering of countries

For comparison purposes, clustering of countries was thought to be necessary. Several ways of clustering the countries were considered. The following table illustrates the considered methods and why each one of them was eliminated.

**TABLE 1: Possible ways of clustering countries for comparison**

<b>Basis for clustering</b>	<b>Reasons for elimination</b>
1. Geographically	seems reasonable, but if countries were clustered according to the regions, regions would unevenly represented (e.g. Only two countries in Central Asia meet the criteria) Furthermore, socio-economic standards can vary a great deal within regions.
2. Per capita income	As clearly seen from the Human Development indices of UNDP, the income of a country is not directly co-related to its living standards.
3. Human Development index	This is another good indicator, but it was not considered as this is also not directly a measure of the development of a country.
4. e-gov index of the UN study	This would indicate how each NRA uses its web presence to provide its services in comparison to other government organizations. However, this index is not usually required to compare the performance of NRA with the rest of government organizations. Moreover, the data in the UN study may be outdated now, as the study was carried out in 2001.

Based on the weaknesses of the possible methods detailed in Table 1, it was finally decided, to cluster the countries based on their 'e-readiness,' measured by the number of Internet users per 1,000 inhabitants. This method is logical as it compares the e-readiness of an NRA against the e-readiness of the population it serves. The e-readiness of the countries under consideration

**TABLE 2 : E-readiness of countries considered in this study**

	Country	Number of Internet users for every 1,000 inhabitants
1	Afghanistan	1.5
2	Myanmar	1.5
3	Bangladesh	1.5
4	Cambodia	2.2
5	Nepal	3.4
6	Pakistan	10.3
7	Sri Lanka	10.6
8	Papua New Guinea	13.7
9	Bhutan	14.5
10	Georgia	14.9
11	India	15.9
12	Vietnam	18.5
13	Mongolia	20.6
14	Philippines	44.0
15	Maldives	53.4
16	Jordan	57.7
17	Saudi Arabia	64.6
18	Oman	70.9
19	Brunei Darussalam	102.3
20	Lebanon	117.1
21	Bahrain	245.6
22	Israel	301.4
23	UAE	313.2
24	Malaysia	319.7
25	Hong Kong	430.1
26	Australia	481.7
27	Singapore	504.4

Source: UNDP Human Development Report, 2004

Four clusters were selected based on this information. For convenience, a logarithmic scale was used to make the clusters. The 27 countries neatly fall into four categories, as shown in Table 3.

**TABLE 3: Country Clusters.**

NOTE: Cluster 1 countries are those with the lowest e-readiness ranking, and Cluster 4 countries are those with the highest.

Cluster No.	Countries
<b>Cluster 1</b>	Afghanistan, Myanmar, Bangladesh, Cambodia, Nepal
<b>Cluster 2</b>	Pakistan, Sri Lanka, Papua New Guinea, Bhutan, Georgia, India, Vietnam, Mongolia

- Cluster 3** Philippines, Maldives, Jordan, Saudi Arabia, Oman, Brunei Darussalam, Lebanon,  
**Cluster 4** Bahrain, Israel, UAE, Malaysia, Hong Kong, Australia, Singapore

## 2.4 Ranking sites

Most NRAs have multiple stakeholders; an NRA's website should cater the requirements of each of these stakeholders. Hence, the best way to evaluate or rank an NRA website is to look at it from the perspective of each stakeholder and verify to what extent it meets the expectations of each stakeholder.

The four key stakeholders are defined as:

- (i) **Existing Industry Players:** They need to maintain a close relationship with the regulator and a website can be one of the best interactive windows they can use for that purpose. The NRA can also use it to keep the existing operators updated on the latest regulations and market trends.
  
- (ii) **Prospective Investors (local and international):** An NRA website is expected to present accurate business information required by such parties. In case of international investors, the website can be the best means of obtaining regulatory information. The information that potential investors may look for falls into several categories: legal, financial and technical information as well as local market statistics , procedural information – particularly licensing procedures or even existing interconnection agreements.

A prospective investor would also be interested in the business and economic environment of the country. This information might be available through other websites and other channels, but a proactive NRA website is expected to provide the basic information on the business environment, or at least the relevant (and working) links to websites that provide such information.



- (iii) **Consumers:** An end user might want to know about services available --perhaps about new technologies and their reliability-- or performance indicators of different service providers (which might help the end user to make a selection of his/her own). End users may also be interested in safeguarding their consumer rights and may see the NRA website as a means for the same.
  
- (iv) **Others:** There is a plethora of other indirect stakeholders such as media personnel, researchers, students, etc. Most of these groups depend on the NRA's website for the latest information on the telecommunication sector, rather than other sources.

However, it is difficult to use this approach in practice. This is largely due to the fact that some information is valid for more than one category of stakeholders. So it is possible that some sets of attributes are evaluated more than once. To avoid this redundant approach, it was necessary to slightly deviate from this approach. Therefore the following approach has been used to perform a more feasible evaluation.

Four categories of information were identified in this study, as information that should be present in an NRA website:

- ❑ **Factual Information:** This includes telecommunications Acts, statistical indicators, etc.
- ❑ **Consumer and Citizen Information:** Information of interest to end-users or prospective end-users, about universal service, consumer rights (including reporting abuses) and tariffs. In addition to actual legislation and formal guidelines, FAQs, or frequently asked questions which are very important to consumers must be present and easily digestible to an ordinary citizen,
- ❑ **Business Information:** This relates to information required by current and prospective operators and investors such as licensing procedures, technical requirements, interconnection agreements, online forms for certification, authorization etc. Here it is

necessary to look for information which *explains and describes* the procedures and requirements, rather than mere provision of access to formal documentation and legislation.

□ **Telecom regulatory news and other features to further disseminate information:**

This final category ensures *accessibility* of information, regulatory news and developments to researchers and journalists who can further disseminate regulatory information nationally and internationally. Often these features contextualize the site information and make it more intelligible.

In addition, there are general features any NRA website should have to be more effective and useful to its stakeholders. These general characteristics are not taken into consideration in the WDR study. This is most likely because most of the African websites were under consideration at the time that the study was being carried out. However in this study, this additional category was included, after considering the Mahan's recommendations for future research.

The general features against which the NRA websites are evaluated are:

- (i) **Availability of NRA's mission statement:** Government websites that offer electronic services are expected to justify the existence of the entity that the website represents, in this case the NRA. This gives users of the website a broad picture of the type of the organization and its responsibilities and activities, and is usually embodied in the organization's mission statement. Alternatively, a site can explain its role, responsibilities and authority.
- (ii) **Future plans and long term vision:** Telecommunication, irrespective of the country considered, is a continuously and rapidly developing field. Therefore, it is essential for an NRA to have a long-term vision and objectives. Presentation of the same in the website cannot be termed as mandatory, but that will definitely help a stakeholder.

- (iii) **Continuous updating of information:** This can be verified by the dates at which the last updates were made (if that information is available) or by the nature of the news items and other information. (Unfortunately, the short time span of this study did not allow repetition the survey to obtain better results.)
  
- (iv) **Availability of information in local language(s):** This is relevant if the language(s) used by the citizens of any country is not English. The NRA websites are not expected to present every piece of information in local languages. However, it is expected that at least some local language content should be available, if more than a significant percentage of the country's population (10% in this study) do not understand English.
  
- (v) **Links to external sites:** In this case not only the presence, but also the relevance of the links is important. For example, an NRA site should lead an investor to the sites that will provide information about the economic environment of the country. It was checked whether the site provides links to both local and external relevant websites. The links should also be checked for their validity, as in some cases they are not updated regularly..
  
- (vi) **Ease of finding information (Separate links for different groups of users on home page or alternatively, a site map):** This is important to ensure various types of stakeholders will be able to obtain the information they seek for, with minimum effort and without having to visit pages with information they do not need. As an e-government service provider an NRA is expected to build its site in order to minimize the surfing time of a visitor.

- (vii) **Organization charts and Contact information:** One of the key difficulties frequently faced by stakeholders is finding the relevant person to contact. It is therefore essential for a website to contain an organizational chart and/or contact details of the officials. This will immensely assist users in accessing specific information from the NRA.
  
- (viii) **Availability of on-line forms:** Making available the different kinds of forms that the public and other stakeholders need in interacting with the NRA on-line can save much time and effort. Ideally the site should provide means to submit these application forms, however only a handful of sites provide this specific feature now.
  
- (ix) **Using website to meet HR requirements:** This is not an e-government service, however an NRA can use a website to fulfill its HR requirements in an effective, speedy and cost effective manner. Job seekers cannot be considered as a direct stakeholder, but the availability of this feature is recognized especially because it is important from the organizational point of view.

## 2.5 Marking Scheme

The following table illustrates how each category was weighted in the evaluation process.

**TABLE 4: Weighting of categories**

**Note:** In cases where the NRA is not responsible for some particular task (e.g. Licensing, handling customer complaints etc) the marks were awarded only if the site has a link to the website of the agency that does so.

	Category	Category weight	Sub Category	Sub-category weight (within the category)	Final weight
1	Factual Information	25%	Regulatory Acts, Legislation, Laws	50%	12.50%

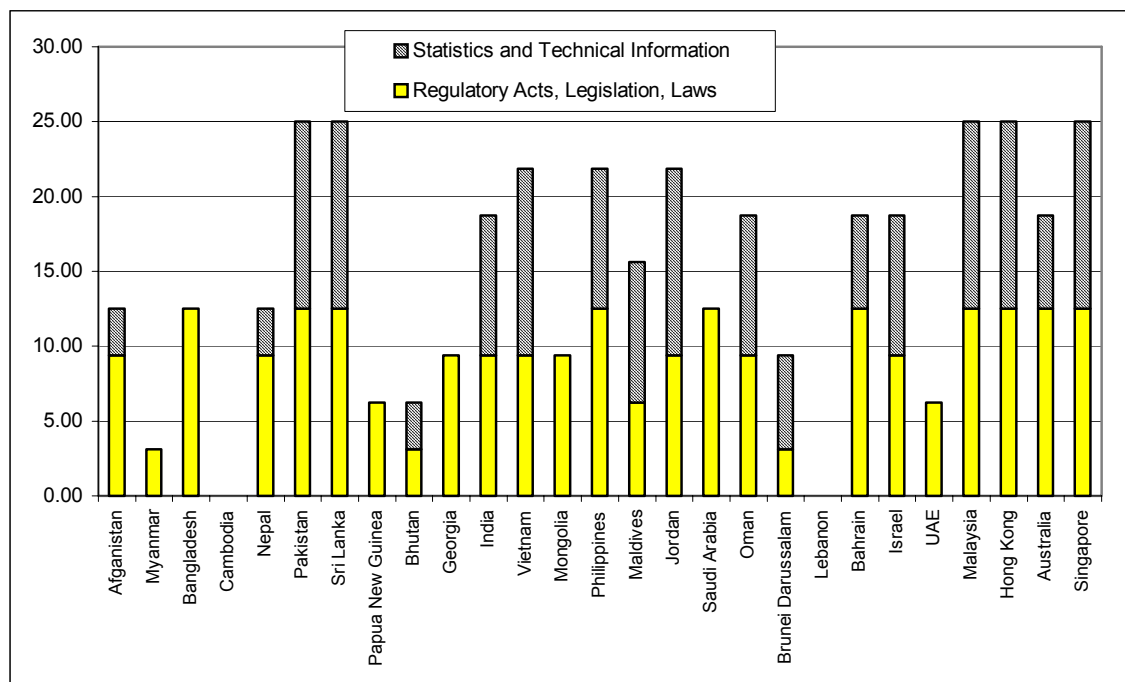
			Statistics and Technical Information	<b>50%</b>	<b>12.50%</b>
<b>2</b>	<b>Consumer and Citizen Information</b>	<b>25%</b>	Information specially meant for Consumers (other than rights)	<b>50%</b>	<b>12.50%</b>
			Consumer Rights Information	<b>25%</b>	<b>6.25%</b>
			Consumer complaints process	<b>25%</b>	<b>6.25%</b>
<b>3</b>	<b>Business Information</b>	<b>25%</b>	Equipment Certification	<b>15%</b>	<b>3.75%</b>
			Market Entry details	<b>15%</b>	<b>3.75%</b>
			Interconnection Information	<b>15%</b>	<b>3.75%</b>
			Consultancy papers	<b>55%</b>	<b>13.75%</b>
<b>4</b>	<b>General</b>	<b>25%</b>	Mission Statement	<b>8%</b>	<b>2.00%</b>
			Future Plans	<b>8%</b>	<b>2.00%</b>
			Update	<b>8%</b>	<b>2.00%</b>
			Local Languages	<b>8%</b>	<b>2.00%</b>
			Local links	<b>8%</b>	<b>2.00%</b>
			International links	<b>8%</b>	<b>2.00%</b>
			Ease of use	<b>8%</b>	<b>2.00%</b>
			Availability of on-line forms	<b>8%</b>	<b>2.00%</b>
			Organization chart / contact details	<b>8%</b>	<b>2.00%</b>
			Info. For job seekers	<b>8%</b>	<b>2.00%</b>
			Telecom news	<b>20%</b>	<b>5.00%</b>
<b>Total</b>		<b>100%</b>			<b>100.00%</b>

### 3.0. Results

#### 3.1. Factual Information

This section looked for the availability of legal information, policy, statistics and technical information of NRA sites.

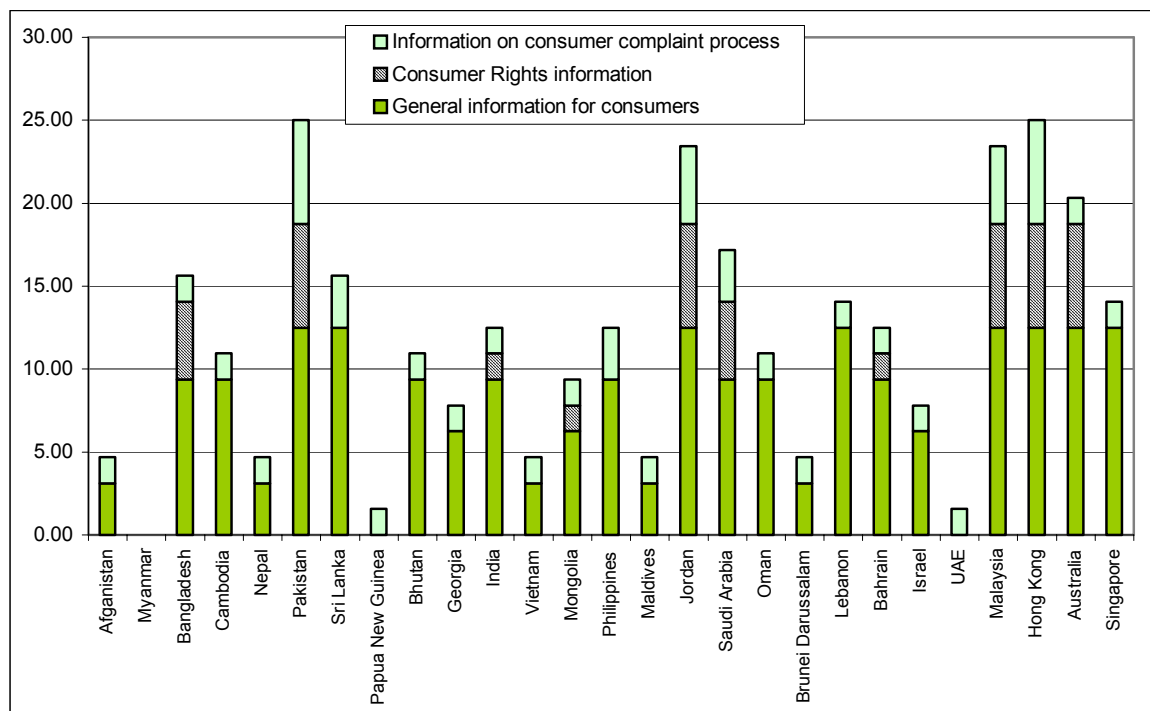
**FIGURE 1: Country marks for Factual Information**



### 3. 2. Consumer information

The objective of this section was to check to what extent the NRA's website caters to the needs of consumers. Special emphasis was given to see what type of consumer rights information is available and whether the NRA uses its website to facilitate the consumer complaint process.

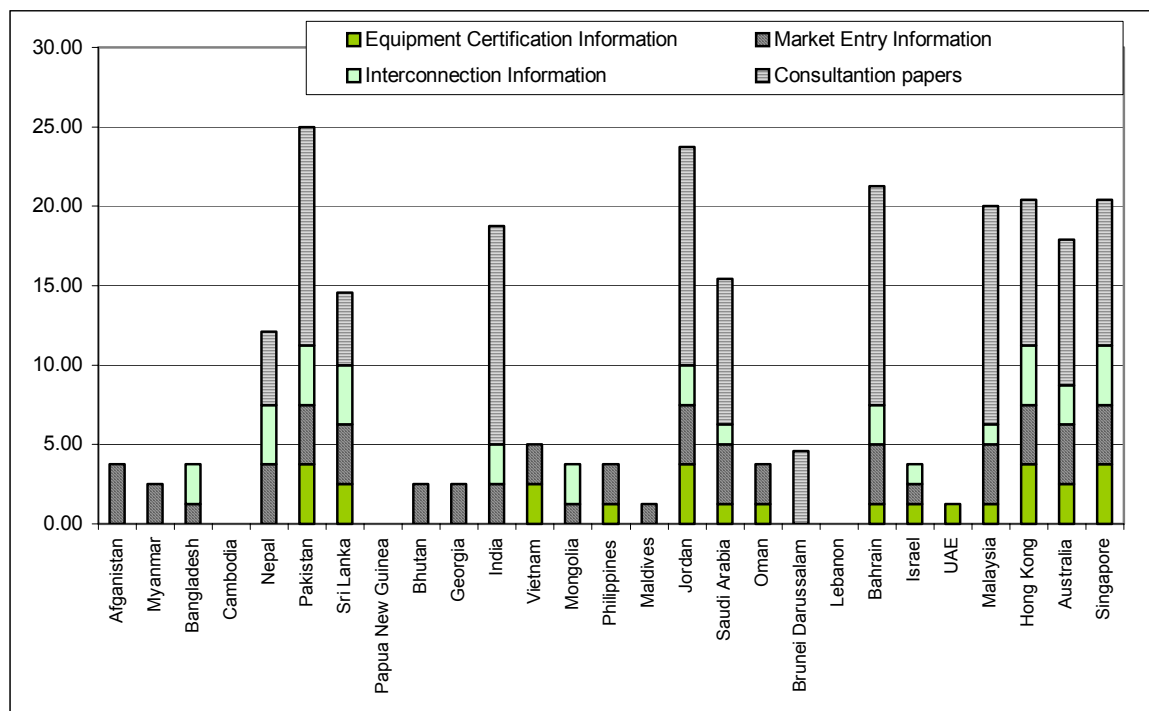
**FIGURE 2: Country marks for Consumer Information**



### 3. 3. Business Information

This section deals with the information usually sought by companies, such as procedures for obtaining permission to import telecom equipment, licensing procedures and charges, interconnection details. The availability of on-line and off-line forms was also checked.

**FIGURE 3: Country marks for Business Information**

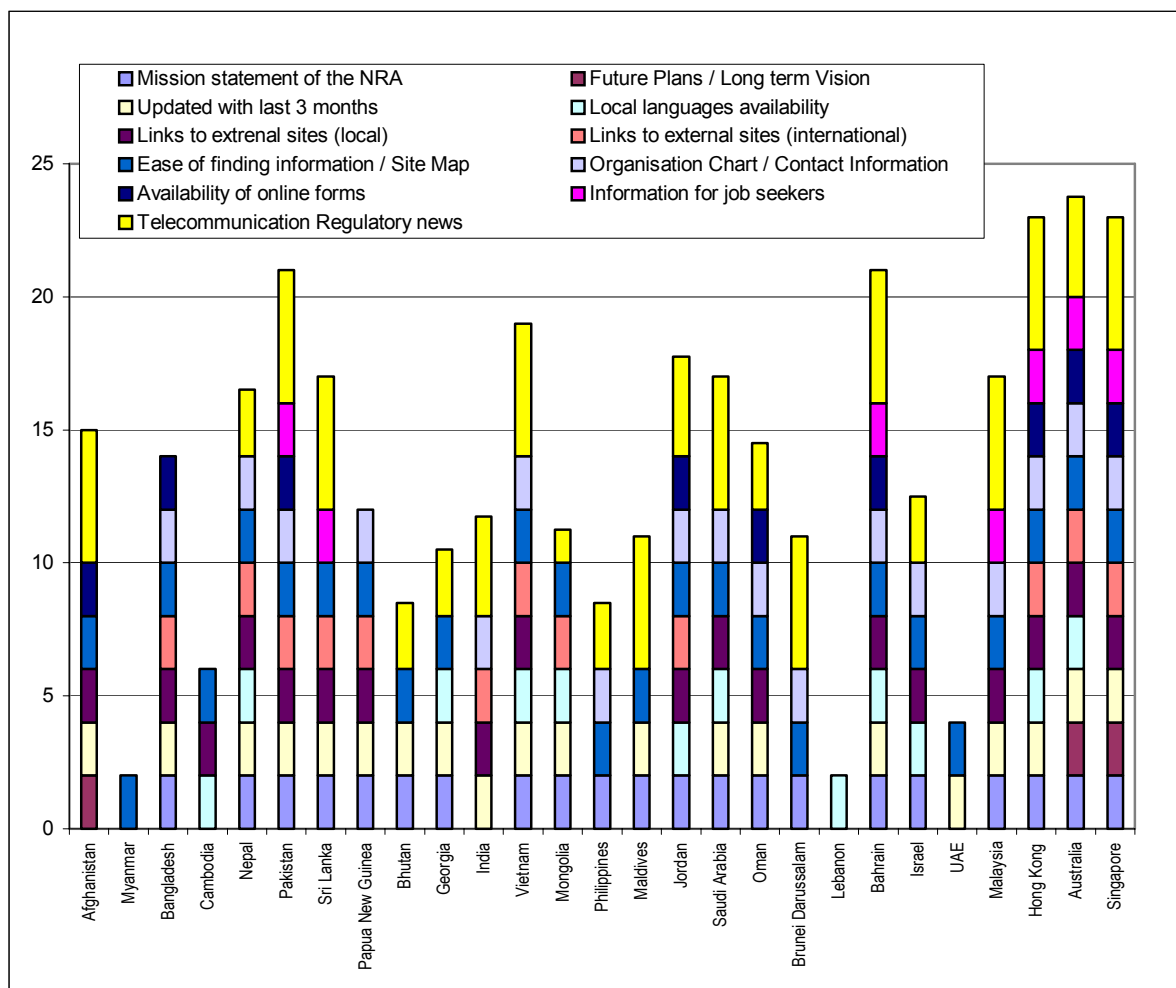




### 3.4. General Information

This section looks for general features of the website as well as the availability of telecommunication sector news.

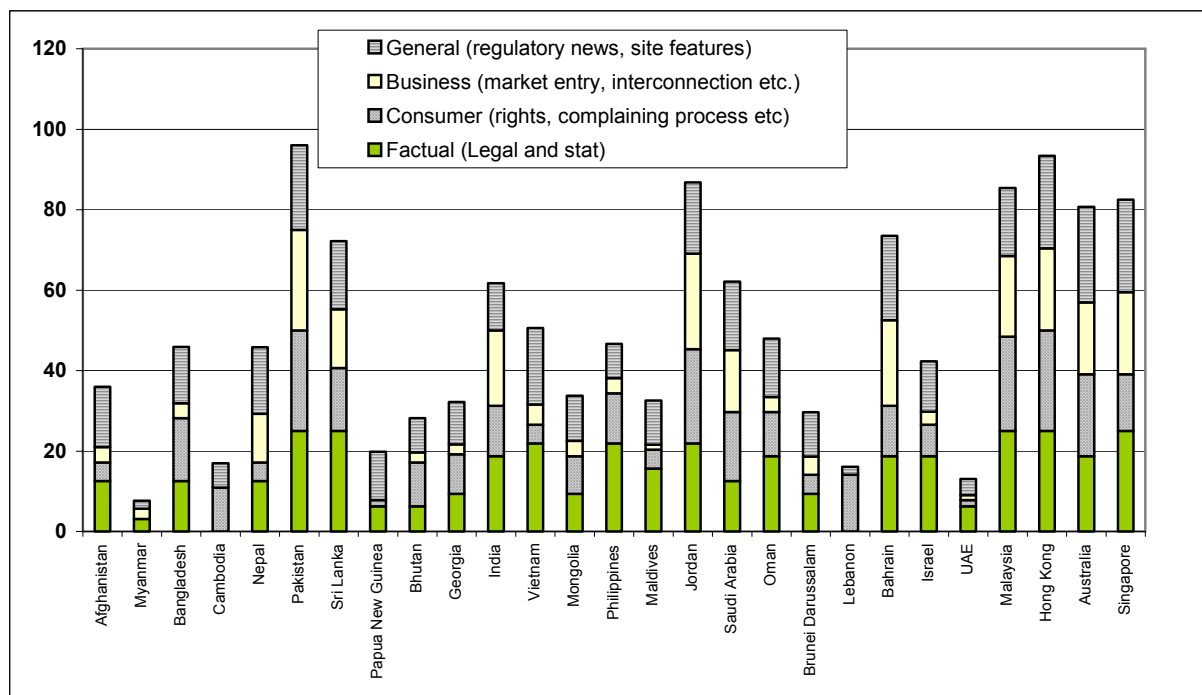
**FIGURE 4: Country marks for General Information**



### 3.5 Final Analysis – Individual NRA performance

Figure 5 presents the final analyses of each country on the four categories – factual , consumer, business and general information. Table 5 and Figure 6 present the final analyses on a cluster basis.

**FIGURE 5: Final country performance**

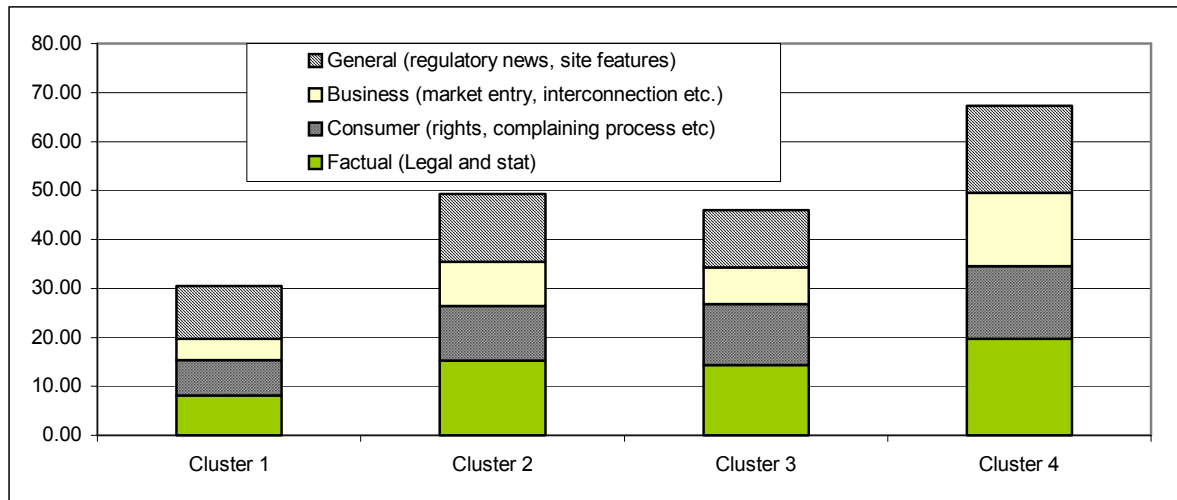


**TABLE 5: Final cluster performance**

		Cluster Average	NRAs at or above sector average	NRAs below sector average
1	Cluster 1	30.43	Afghanistan, Bangladesh, Nepal	Myanmar, Cambodia
2	Cluster 2	49.31	Pakistan, Sri Lanka, Vietnam, India	Papua New Guinea, Bhutan, Georgia, Mongolia

3	Cluster 3	45.97	Jordan, Saudi Arabia, Oman	Maldives, Brunei Darussalam, Lebanon, Philippines,
4	Cluster 4	67.28	Bahrain, Malaysia, Hong Kong, Australia, Singapore	Israel, UAE

**FIGURE 6: Final cluster performance**



#### **4.0. Limitations**

This NRA website survey is not a fully fledged e-government benchmarking study. It is a benchmarking of the performance of NRAs in terms of how they use their web presence (if at all) \_to cater the demands of selected stakeholders. These limitations are clear when the methodology used in this survey (largely based on that used in the WDR study) is compared with that used in the UN study; the UN study uses several different approaches to develop the E-Government Index for each country. These are:

- (i) A website survey to measure not only the effectiveness and progress of e-government efforts, but also the different types
- (ii) Onsite visits to selected countries to assess the progress of their e-government programs
- (iii) A Questionnaire to high-level policy and decision makers, public sector managers, administrators and civil servants working on their country's national e-government programs.
- (iv) A statistical analysis to determine the infrastructure index (This was based on statistics such as the number of PCs, Internet hosts, Internet users, fixed telephone lines, mobile connections, and TVs for every 1,000 inhabitants in each country.)

*This* website survey did not employ the last three approaches, largely due to the lack of resources to conduct a benchmarking study with such a large scope. It was restricted to a website survey (flowing the example given by the WDR study) but endorses and emphasizes the need for a broader study, possibly to be done at a later stage.

There were some other limitations that could not have been avoided. These limitations stemmed from some inadvertent assumptions that might not always hold true, but without which, the survey could not have been completed.

In an ideal world, to make a comparison, it is necessary to keep all other factors constant. This means that the survey has inadvertently assumed all economies covered by the 27 NRAs to be of equal size, all NRAs are of equal size and have equal powers, resources and they all operate in similar markets. However, in the real world this is hardly the case. For instance it might be easy for a relatively small state to have an effective NRA and effective website compared to a larger state. Also a richer nation might be in a better position to spend more on the human and technical resources necessary to create and maintain an effective site. These dissimilarities are somewhat addressed by benchmarking the sites against the e-readiness of each country, but that too fails to address the issue completely.

The issue of the local languages was also prominent. In some of the countries whose NRA websites were surveyed, English is hardly used for day-to-day activities. For such countries it might not be essential to have all the information in English. For example, the NRA of South Korea might not find it a dire necessity to publish all information they want to pass to consumers in English. However, due to practical limitations, only the English version of the websites (if available) could be benchmarked. When there were no English versions, the countries were taken out of the list.

## 5.0. Conclusion

The immediate observation one might make, based on the findings of this survey, is the inadequacy in the number of websites that had come under review. Out of the 62 independent Asia-Pacific economies, only 27 NRA websites (44%) have been benchmarked. The percentage of the websites that could have been benchmarked if not for the limitations put by local languages is 53%. It can be argued that the situation is slightly better than in Africa where the WDR study only reviews 44% of the NRAs. However, it should also be noted that in Africa only 15% of the NRAs did not have functional websites, while in the Asia-Pacific region, taking the number of websites under construction too into account, that figure is 29%, almost the double the African figure. In other words, three out of ten NRAs in the Asia-Pacific region do not have a web presence. It might not be fair to attribute this purely to the lack of strategic direction at the top level, sometimes this can be due to lack of resources or other problems, but nevertheless it does not make a good impression.

Another noteworthy observation is that a relatively higher number of websites do not have fully fledged English versions. It was found that five countries <sup>[6]</sup> out of the 62 considered do not have English versions of their websites at all, while South Korea has English versions of certain sections only. In countries where only a minor percentage of the population speaks English and most communicate in another language altogether, NRAs might not feel it necessary to create and maintain English versions of their websites; or else they may face difficulties in finding skilled people with adequate English knowledge for the task.

However, users of NRA websites are not confined to consumers only. There are many other stakeholders and some of whom may be from other countries, and may not understand the local language(s). Therefore it can be a worthwhile effort to create and maintain an English version of the NRA's website. In some cases it might be useful if they have versions of other international

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<sup>[6]</sup> Namely, Armenia, China, Indonesia, Thailand and Yemen

languages too. However, none of the websites reviewed had versions of other international languages, except for Georgia and Mongolia, which had some parts of theirs in Russian.

Out of the 27 websites reviewed some contained only basic information and constituted not more than ten pages (e.g. Myanmar, Cambodia and Lebanon). At the other extreme were the more effective and informative sites such, those of Hong Kong, Pakistan, Australia, Singapore and Malaysia. These sites are not only informative, but also present information and other services in a user-friendly manner. In fact, these sites can be recommended as guides to any NRA that plans to build an effective and useful site of its own.

Following the method used in the WDR study, this survey too did not evaluate sites based on their aesthetically pleasing features. However, the presentation of information was treated seriously as this is an aspect that makes a site largely useful. If the aesthetic aspects were considered, sites such as those of the UAE and South Korea would have scored more marks than they did in this survey. On the other hand, there were also other sites like those of Australia and Singapore which have apparently not taken excessive steps to make their pages aesthetically pleasing, nevertheless the information as well as its presentation was excellent. The websites of Hong Kong, Malaysia and Pakistan have attempted to strike a balance.

The survey also reviewed some of the 'non-independent' NRA sites such as the ones of Cambodia (Ministry of Posts and Telecommunications), Israel (Ministry of Communications), Lebanon (Ministry of Telecommunications), Myanmar (Posts and Telecommunications Department) and Vietnam (Ministry of Posts and Telematics). The structure of many of these NRA sites was not very different from those of 'independent' NRA sites. However, one may still argue that it is not fair to compare a Ministry site with an 'independent' NRA site, given the fact that an Independent NRA, with less bureaucracy and greater flexibility is in a better position to present a more effective and useful site. The findings of the survey do not negate this supposition. Still, few Ministry sites have fared reasonably well.

It is useful to look at what type of information the websites present and what types they do not.

Overall, many sites were good in presenting factual information, especially legal information. Out of the 27 sites 37% scored full marks for presenting legal information and regulations and 81% of them scored at least half of the marks given. Only 7% of the websites failed to have any sort of legal information. On the other hand, when it came to presenting statistics, performance was not that good. Only 26% of the websites scored full marks for presenting comprehensive statistics, while 56% of the sites obtained at least half of the marks. About 33% of the sites had no telecom sector statistics. In this section the second cluster beat the third one, largely due to three sites in Cluster 2 – those of Pakistan, India and Sri Lanka – presenting ample statistics of their local markets.

The presentation of information for consumers was not very impressive.<sup>[7]</sup> About 30% of the websites obtained full marks for presenting information useful for consumers in a presentable format. Only 11% of the websites did not contain this information. However, when it came to presenting consumer rights, as much as 63% of the sites had no information at all. Only 26% scored more than half of the marks in this sub category while only 19% scored full marks. Information about consumer complaint procedures too was not available in many sites. Out of the 27 sites 70% had only the contact details or a feedback form to be used for consumer complaints. However, the 7% of the sites that scored the full marks for this category have done well. Hong Kong's NRA website not only had the detailed procedures of making complaints and investigation procedures, but also information on ongoing and completed cases. Pakistan's NRA website too is worth special mention; in addition to providing detailed information on the process of making complaints, it provides information on what *type* of complaints a consumer can make, whom to be contacted for different cases, toll free numbers for making complaints and the progress of

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<sup>[7]</sup> The possibility of some web sites having this information on their local language versions is not ruled out.



previously made complaints. The complaints can be made using a user-friendly on-line feedback form. Overall, there is still room for improvement for most of the NRAs. Perhaps this is one area they should pay more attention in future.

Except for information regarding the licensing procedures and tariffs, many websites also lacked information usually sought by businesses as well. A total of 64% of the sites scored 2 out of 3 for the availability of the information on licensing procedures and tariffs. However, when it came to information on restricted equipment and that on interconnection, the corresponding percentages were 25% and 24%. Making a list of restricted/prohibited equipment available to operators is extremely useful, saving them much time and resources; the operator can easily refer to the list when importing equipment, rather than approaching the NRA each time it wants to import a kind of equipment that it has not done so before. Thus it can make a big difference if NRAs present this kind of information on-line. Many websites presented the outcomes of consultancy studies that have been conducted in the recent past. Some sites, like that of India's NRA have a substantive collection of past consultancy papers.

Looking at general features, 78% of sites contained either their mission statements or information that is equivalent to a mission statement. This is indeed a good sign. This means that a large percentage of NRAs were genuinely attempting to share their justifications of existence with their stakeholders. However, only 11% of the NRAs have gone one step further to illustrate their long-term visions or business plans. A minimum of 74% of the websites gave clear indications that they were updated within the last three months, while few sites were observed to be updated almost daily with latest news.

Another feature that most of the sites lacked was the facility to submit on-line applications. This too an extremely useful feature any website can offer its users. This type of interactivity not only facilitates the interaction between the NRA and its stakeholders, but also helps to move the website to a more advanced ranking, that is, move from being an 'informational' or 'interactive'

website to a 'transactional' one. However only 14% of the NRA websites reviewed in this survey could be classified as 'transactional,' those that offered online application forms for obtaining a license. However, many other sites offered off-line application forms which could be downloaded from the site, but the submission is required regular postage..

The presentation of facts in local languages was not very impressive. In the vast majority of the Asia-Pacific economies the official language or the langue that used most is definitely not English. However, only 44% of the NRAs had taken steps to present their NRA in the local language(s). The list of countries that did not have local language NRA websites include Afghanistan, Bhutan, Brunei Darussalam, India, Malaysia, Maldives, Myanmar, Philippines, Singapore and Sri Lanka. In some of these cases there might have been difficulties in creating websites in local languages, but for others that is hardly an excuse. Many sites were also seen presenting links to other relevant sites. Sixty seven percent of the NRA websites had links to local sites, in most of the cases government ministries and departments. Links to international websites (such as that of the International Telecommunications Union) were given only in 44% of the sites. About 93% of the sites either had site maps or a similar means to ensure easy browsing for users, while 26% of the NRAs have used their website as a means of recruitment. About 63% of the sites contained organizational charts. Many sites also presented relevant news in the telecom sector, but actual presentation was not too good in some cases. Some NRA sites presented information about the country itself (for example the UAE) while others presented picture galleries. (for example. Bhutan) These aspects were neither treated positively nor negatively in the evaluations.

In conclusion, the most important message that this survey can pass on, is that most of the NRA websites that scored lower marks can be improved with little effort. As clearly seen from the tables of comments, the NRA sites that scored higher in the overall evaluation had scored high, in almost *all* aspects, while those who were unable to obtain good scores have failed in more than one aspect. Perhaps the lesson that most of the NRAs can learn is that instead of reinventing the wheel, they might take from the examples of those NRA websites that scored well in this study.

The five NRA websites that scored highest marks in the survey can without a doubt be recommended as guides to others.

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