Middle East and Adjoining Countries DNS Study

Document Reference	ICANN/ME-DNS/003
Protective Marking	COMMERCIAL - IN CONFIDENCE
Document Owner	EURid
Status	FINAL
Publication Date	25 Jan 2016
Latest review date	22 Feb 2016

Contents

Acknowledgements

The authors of the Study wish to thank all the registries, registrars and end users, and in particular our local partners Charles Shaban and Dina Kattan of Abu-Ghazaleh Intellectual Property in Jordan, all of whom valuably contributed to its development and provided insights into the DNS environment in a region whose diversity should represent a stimulus for future growth and where advice offered by external stakeholders should be interpreted as constructive input to enable local players and markets to achieve their full potential.

Executive Summary

Analysing the domain name industry without considering the wider context is a bit like trying to review the spokes in a wheel without considering the overall vehicle. Only by trying to understand the environment in which the domain name industry is operating, can we reach sensible conclusions and feasible recommendations about how to extend uptake.

The Middle East and Adjoining Countries (MEAC) DNS Study 2015 – referred in the text as "the Study" – sets the domain name industry and registration data in the wider context of the region's Internet development, Internet usage patterns and user preferences, the region's hosting industry and the importance of local language content. Subsequently, it draws on relevant benchmarks and best practices developed within the global ccTLD environment, and leads to some suggested actions that may stimulate wider uptake. The report is based on quantitative and qualitative data gathered at the end of Q2, 2015.

Understanding the region's Internet environment

The most important concept when considering the MEAC region is an appreciation of its diversity. Some countries have the highest levels of income per capita in the world; others struggle with poverty, war, and displacement of persons – amidst such challenges, Internet development is unlikely to be a priority. Some countries in the region have literacy rates, and broadband uptake to rival global super-powers; others have high levels of illiteracy, and fewer than 10% of their population online. Across the region as a whole, we found that 31% of users spend 3 hours or fewer per day online, but in some countries, people said they are online for more than 10 hours per day.

The benefits of enhancing cultural and linguistic diversity and local content are recognised in the World Summit on Information Society Action Line C8. Earlier studies have shown strong correlations between the availability of local hosting and occurrence of local language content. It is obvious that a rich array of content in languages people can understand will act as a powerful incentive to get online.

Users in a multi-country survey commissioned for this Study expressed a strong preference for using local languages (eg Arabic, Farsi, Urdu) when interacting with friends and government online. However, English dominates as the language of web content, in 71% of sites associated with the region (compared with 55% of global sites). Users in our survey show remarkable flexibility in switching languages online, according to context – perhaps adapting to current conditions.

The user survey supported evidence from other studies that there is strong uptake of social media in the region. It also suggested continuing use of websites and domain names, however. Nearly one third (31%) of users in our survey have uploaded content to websites in the past 12 months. Websites are preferred to social media when interacting with business and governments.

Hosting markets, which are closely associated with domain name registration, are strong in Iran and Turkey. Elsewhere in the region, the hosting provision is weak. Overall, only 5% of popular web content is hosted within the region. Many countries in the region have strict legislation or regulation affecting Internet content (and intermediaries). The extent to which this impacts users' hosting choices is unclear. Users in some countries (Tunisia and Pakistan) said that they prefer not to host locally, but users from Iran – which has one of the strictest content regulatory regimes – prefer to host at home. This is borne out by our quantitative analysis of content hosting.

The region's domain name industry: registries, registrars and registrants

This Study contains the results of a structured survey of ccTLD registries in the region, supplemented with interviews with registries and registrars.

Most ccTLDs in the region remain confined to their territory with strict and/or complex policies and procedures both for registrar accreditation and for domain name registration. Historical facts that resulted in the delegation or transfer of the registry operator are still influencing a healthy registry development. There is clear lack of consistent and regular registry involvement in the international TLD environment, including the regional TLD organisations, which are a cradle of best practices.

Competition in local registrar markets is weak, resulting in poor choice and pricing for end users. Most of the international registrars who have modern platforms for end-users are not present in the region. They told us that they are discouraged from including the region's TLDs in their worldwide registration platforms because of the administrative barriers such as manual procedures and/or pre-registration checks. Local registrars often complain about the lack of dialogue with registries, some of which remain unresponsive to requests for modernising management of the TLD. This view is contested by some of the local ccTLD registries.

At the end-user level, domain names compete with much faster channels to get online such as social media. Users in our multi-country survey complain about lack of local providers. Most said

they were unable to name their registrar, and said they did not buy value-adding services when purchasing their domain. Overall, the choice of payment systems for registering domains is limited, and does not include innovative services for the unbanked. This is also true for premium domain names. These names that have already been registered by someone else but are now being resold for a premium rate are often sold at online auctions, sometimes to increase site traffic. This means anyone can buy premium domains as they are being sold on the open market, but often require the buyer to be banked.

End user awareness of domain names is quite high. Nearly half of users in our survey said they knew what a domain name is, and 40% said they type the domain directly into the navigation bar of their browser (compared with 35% of global users). Nearly all users from the region check the domain name before clicking search results. These results are encouraging from the perspective of the market potential for domains in the region.

Domains in the region – facts and figures

We measured the region's domain names, from a variety of sources including contacts with ccTLD managers and automated analysis of 150 million domains from open gTLD zone files.

There are 2.9 million domain names associated with the region in 2015, comprising 1.5 million ccTLDs, 1 million gTLDs hosted in the region, and at least 0.4 million gTLDs hosted out of the region[1].

In all, only 1% of the world's registered domains are in the MEAC region. The low penetration rates are confirmed by analysis of domain name registration per 1 000 inhabitants. Only 3 ccTLDs in the region have higher than 10 domains per 1 000 inhabitants (compared with 100 - 300 domains per 1 000 in global comparator countries).

Despite, or perhaps because of, the low numbers, there is strong percentage growth in domain name registrations across the region, >20% per year. Growth is particularly strong in ccTLDs that have deregulated their policies and procedures (eg .tn and .ma).

There are 21 000 Internationalised Domain Names (IDNs) across the region, of which half are under .tr (Turkey – Latin script), and half are Arabic script. Worldwide, uptake of IDNs is hampered by lack of basic functionality (universal acceptance).

[1] The meaning of 'hosted' in this context: the existence of a DNS A record for a given gTLD domain name pointing at an IP address. When we say "hosted in the region" this means that the IP address pointed to by a DNS A record for a given gTLD domain name is located within the region (as determined by an IP2location database). When we say "hosted outside of the region" this means that the IP address pointed to by a DNS A record for a given gTLD domain name is located outside the region (as determined by an IP2location database)

Analysis of the market potential for domains in the region

While uptake of domain names in the region is comparatively low, it is clear that domain names and websites continue to play an important part in the online life of the region's users.

Some countries in the region are struggling with basic Internet infrastructure, low penetration rates, high prices, slow speeds, few IXPs. Without these basic building blocks, Internet penetration (and therefore, domain name registration) will continue to be low.

Globally, the competitive environment for ccTLD registries is hardening, and these forces are likely to impact the region. In the wider market, ccTLDs have been tending to reduce registry prices and deregulate their policies to foster greater TLD uptake. The deregulation by registries in the region has had a beneficial impact on registration volumes. Meanwhile, there are strong forces for conservatism (lack of change) in the region, which may be more powerful than forces for change.

User preferences for local languages signal potential for IDN growth in the region but all interested parties should work more at the IDN universal acceptance level.

Multiple factors contribute to domain name patterns in the region, including policy, pricing, operational costs, technical architecture, sales and marketing and staffing. Feedback from local and international registrars about the region's ccTLDs is that fees are too high, policies are viewed as strict, and registration processes bureaucratic and slow.

Recommendations

The report concludes that the potential for the domain name market in the region is still strong, but multiple actions need to be undertaken by various actors in order to generate rapid growth.

In the wider environment, basic Internet access issues need to be given priority and all stakeholders need to work on strengthening local hosting markets. Policies and investment should focus on supporting ecommerce and local language content.

In the domain environment, there is room for diversity in business models and registry structure. Whatever the approach adopted, local TLD operators need to set a clear strategy and measurable goals. Liberalising policies, making them more accessible and lowering fees – as well as make them more transparent and linear – can drive growth, but a sustained approach is needed.

International registrars are essential to long-term growth. They can intensify local competition, lowering retail prices and improving uptake. Improving and standardising technical and operational systems are likely to reduce costs and encourage international registrars to support local TLDs. Registrar relationships are key (in a mixed or registry-registrar model). This Study

recommends that ccTLDs in the region consider starter programmes and incentives to on-board new registrars at local level. Registries may also consider domain names together with add-on products (e.g., forwarding services, services designed to assist customers in building websites), as this can help stimulate the market for value-add services where it is not yet mature.

Participation in ccTLD regional organisations or DNS Centres benefits emerging registries through best practice sharing and establishing benchmarks that are relevant to the region. At the same time, to improve IDN literacy and benefits, it is recommended that registry operators launch initiatives to increase knowledge of IDN availability and cooperate with service providers to facilitate universal acceptance for IDNs.

Enhancing the TLD registry role in supporting the local communities and providing Internet education can be effective both in raising the profile of the TLD manager and for strengthening links with primary end-users.

I. Introduction

The Middle East and Adjoining Countries (MEAC) DNS Study was developed over a three month timeframe (July-September 2015). Version 3 was produced in December 2015 – January 2016 after having reviewed the gTLD and ccTLD figures, taken into account and incorporated the feedback ICANN received during the public comment period (10 comments), inserted an extra sub-section with the findings of the extension of the end user survey to approximately 55 contacts in the region, and, most of all, after having accurately factored all the elements to make sure the conclusions are fully consistent with the outcome of the analysis of the various DNS components.

The Study is set out in three broad sections: information and data about the region; analysis; conclusions and recommendations.

The first section (information and data) is the most extensive, and is divided into three themes: an overview of the region and basic Internet provision; a description of the region's domain name industry from the perspective of registries, registrars and registrants; and a quantitative analysis giving domain name registration data, language and keyword analysis of web content associated with the region.

The second section (analysis) begins with a strategic overview of the region's domain name market. It continues with benchmarks from the global ccTLD industry on registry policies and the sales model. After considering the potential growth scenarios for domain names in the region, the section concludes with a detailed analysis of best practices including business models, registry policies, marketing and stakeholder dialogue.

Finally, a brief conclusion pulls together the elements explored in the body of the report, and sets out some practically orientated recommendations.

The written report is complemented with an infographic which sets out the key findings and recommendations.

Research methodology

The data presented in this report was gathered from a variety of sources, including a specially commissioned multi-country user survey, direct contact with ccTLD registries and registrars, and extensive data analysis of the gTLD open zone files. This section describes the methodologies, and highlights any shortcomings or caveats in the research methods.

User survey

A multi-country user survey was conducted, to give insights into the end-user experience of web use in general, and domain name registrations in particular.

The question set comprised 24 questions ranging through the user experience of domain name registration, use of online payment systems, online activities, and preferred languages. The surveys, made available in English, French and Arabic, were administered by local specialist survey companies and partners, which were selected on the basis of their reputation and responsiveness. The surveys were conducted through a mixture of online forms and telephone interviews.

A further end user survey, using the same question set, was conducted in December 2015 – January 2016 at the request of ICANN staff. The authors received the feedback from 57 respondents in the region which were reached out to through a smaller set of contacts provided by ICANN staff.

Observations on methodology and potential biases

The overall number of responses (700) does not represent a solid basis for drawing firm, quantitative conclusions. However, in the absence of other evidence on user behavior in the region, the results of the original survey can provide valuable qualitative insights. At the level of individual countries, the sample sizes were smaller, and, large percentage differences can occur with relatively small movements of numbers, potentially distorting results.

The supplemental survey, with so small a data sample is of limited value.

Domain name registration and usage

ccTLDs

Each ccTLD is policy independent, and it is not common practice for ccTLDs to make their zone files available contrary to the gTLD environment. Many ccTLDs worldwide now publish registration data and some publish historical data and other information[2]. Some ccTLDs in the region do publish registration data, for example Iran, Morocco, Tunisia[3]. Many of these statistics

[2] See for example, the site Statdom, a project of the Russian registry ccTLD.RU (www.statdom.ru).
[3] See, for example, http://www.registre.ma/?page_id=126, http://www.ati.tn/fr, and http://irnic.ir/Statistics

pages do not give historic data, or IDN data, but only the general registration figures on the day consulted. Other registries in the region do not publish any statistics.

The research team has been working within the ccTLD community for more than 15 years, and through a long-term project, the EURid-UNESCO World Report on Internationalised Domain Names, has established routine collection for domain name registration figures, including IDNs. For the purposes of this project, the research team reached out to its contacts within ccTLD registries in the region with a standardised questionnaire (see Appendix I) covering a range of issues and activities.

ccTLD registration data (including IDN data) was obtained either through direct registry contact during the period June-September 2015, or from publicly available information from the registries' websites (consulted during the same period).

gTLD data

1. All gTLD and open zone file domains were captured in June 2015 producing ~156 Million entries. To respect individuals' privacy, and in the absence of authoritative bulk WHOIS provision[4] the team avoided doing large-scale WHOIS look-ups, and where possible based analysis on website content, supplemented by WHOIS look-ups only where unavoidable.

   The following metrics were recorded for each domain name:

   a) IP address of the domain name as determined by the existence of a DNS A record
   b) Web page status code[5] for the domain
   c) Script of the domain name itself
   d) Scripts contained in the web page for the domain where content exists in b)
   e) Geographical location of hosting for each domain name using the IP address and a lookup database - recording country, region and city for each

2. A regional subset was produced from the data set in 1) for any domains that match one or more of the following criteria:

   a) Country of hosting[6] the web page was within the region.
   b) The script of the domain name itself contains Arabic characters
   c) Web content associated with any given gTLD domain name (no matter where hosted[7]) contained Arabic characters.

3. As there were many domains encountered in the subset produced in 2) which only contained a small number of Arabic characters in the content it was deemed prudent to further reduce the set of domains which have been included using criteria 2(c) to just those

[4] Requirements for registrars to provide bulk WHOIS were removed from the latest version of the ICANN Registrar Accreditation Agreement (2013).
[5] For a list of the http status codes, see http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html
[6] The term 'hosting' here has the same meaning as explained in footnote1
[7] *Ibid*

domains where there are at least 50 Arabic characters occurring on the web page[8]. Further analysis was then performed on these domains to determine any web pages which have been explicitly set with an HTML language attribute of one of the languages in the region.

4. Steps 1-3 above yielded information relating to gTLD registrations. For a complete picture, information relating to country code Top Level Domains (ccTLDs) is required. Each country's ccTLD is managed independently. Policies are determined locally, as are decisions whether or not to publish information relating to the ccTLD and its zone file. While gTLDs are subject to ICANN's requirements to publish metrics and raw data (in the form of zone file access), no such requirements apply to ccTLDs.

5. Identifying privacy/proxy registrations in the region was more of challenge, because by definition the hosting and registrant data is not guaranteed to be region-based. Furthermore, the concept of "privacy/proxy registrations" might be subject to multiple interpretations which can lead to different results. The team worked from a list of the 500 most popular websites by country published by Alexa.com. Data was available for 18 countries in the Study (Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, United Arab Emirates, Yemen, Islamic Republic of Iran, Pakistan, Turkey, and Afghanistan). No data were available for Djibouti, Lebanon, Libya, Malta, Mauritania, Somalia, Syrian Arab Republic, or Tunisia.

The Alexa.com lists produced 4 832 unique domain names, reflecting that many of the popular websites occurred in more than one country.

The team performed WHOIS lookups for each of these domains to identify use of privacy proxy, country of hosting, website status and registrar of record.

[8] At first, a threshold of 20 characters was used, but we found that this delivered many false-positives as the automated translation service sometimes confuses Chinese (Han) script with Arabic script in low numbers.

II. The wider Internet environment: Factors influencing domain uptake

Background – an introduction to the region

The region that is the focus of this Study - the Middle East and Adjoining Countries (MEAC) - covers a vast geographical expanse, from the Atlantic coast in the West to the Hindu Kush in the East. It is a region of great economic and social diversity – from the Gulf countries to Afghanistan – and varying levels of Internet development. There is also linguistic diversity within the region, with several languages sharing Arabic script (e.g. Arabic, Urdu, Farsi, Dari, Pashto), and others (such as Turkish) written in Latin script.

What countries are included in the Study?

The research team was asked to provide analysis of the domain name and related markets in the MEAC region. The countries included in the Study are the 22 Arab States[9] and the Adjoining Countries of Iran, Pakistan, Afghanistan and Turkey.

Together, these countries and territories are included when we refer to "Middle East and Adjoining Countries region", the "MEAC region" or "the region" in this report.

Upon request of ICANN, the research team especially focused on the following countries within the region:

Egypt	Jordan	Lebanon	Morocco
Qatar	Saudi Arabia	Tunisia	United Arab Emirates
Afghanistan	Islamic Republic of Iran	Pakistan	Turkey

Table 1

Gaining an understanding of the factors that drive domain name growth

Domain names are the lightweight glue that holds the Internet together. An online experience cannot happen without domain names being involved. However, the potential market for domain name registration will be influenced by multiple factors.

[9] See http://www.lasportal.org/ar/aboutlas/Pages/CountryData.aspx

Domain names can best be understood as hygiene factors – they are essential for participation in online life, but users may not be aware of them. At a basic level, the important question is how people from the region get online. How do economic factors and skills (such as literacy and language) affect Internet uptake? What are the metrics for basic Internet access including online population, prices and speed across the region?

How are people from the region using the Internet? What sort of content are they creating, and how are they sharing such content? If current needs are met through existing platforms (e.g. social media), is there really a potential for domain name growth? And where might potential gaps be?

Do people from the region actually want to use the Internet to perform everyday tasks, or would they rather do things like interacting with shops, government, friends, buying newspapers offline?

Research[10] has found strong correlations between the availability of local hosting and value added services. What can we learn about the availability of such value add services in the region? The answer may inform thinking about how to stimulate domain name growth. How important is language as a factor? What languages do people use for everyday tasks online, such as communicating with friends, buying goods or services, sharing videos, or interacting with their government or employer? What are the gaps between the languages people use, and the availability of domain names and related services in those languages?

Foundations of Internet development – economics, literacy and language

Basic infrastructure challenges must be overcome before populations can participate fully in online life (of which domain name registration is a part). Literacy and language also have an impact on a population's Internet experience.

This section reviews countries in the region from the perspective of their economies, skills, broadband penetration and costs of access. The results underline the region's diversity, and the challenges which many countries are facing in delivering basic, affordable access.

Economic factors

Population sizes range from 2 million (Qatar) to 182 million (Pakistan). GDP (Gross Domestic Product) per capita gives a normalised view of relative wealth. Results range from $659.00 (Afghanistan) to $97,500 (Qatar). There are three broad clusters in the GDP per capita rankings:

[10] Internet Society, OECD, UNESCO, "The relationship between local content, Internet development and access prices, 2011, http://www.oecd.org/internet/ieconomy/50305352.pdf

GDP per capita range11	Countries or territories
< $999 (lowest)	Afghanistan
$ 1,000-$3,999 (lower middle)	Egypt, Morocco, Pakistan,
$ 4,000-$19,999 (upper middle)	Iran, Jordan, Lebanon, Tunisia, Turkey
> $20,000 (high)	Qatar, Saudi Arabia, United Arab Emirates

Table 2

The World Bank's Doing Business ranking is relevant. Those countries ranked higher are more likely to attract investment (subject to political issues) and to present an enabling environment for entrepreneurs.

Doing business ranking (World Bank)[12]	Country
150 and above (low ranking)	Afghanistan
100-149	Egypt, Jordan, Lebanon, Pakistan,
50-99	Qatar, Morocco, Tunisia, Turkey
1-50 (high ranking)	Iran, Saudi Arabia, United Arab Emirates

Table 3

Across all the economic measures, Gulf countries score most highly, Afghanistan consistently ranks lowest. Some countries are struggling with more pressing issues than Internet (and domain name) uptake. Given the region's economic diversity, we should not expect a uniform performance across every country.

Skills and language

The International Telecommunication Union (ITU) has developed a multi-factor measure, the ICT Development Index (IDI). The IDI reflects economic, skills and Internet usage factors, recognising that multiple drivers contribute towards Internet wellbeing. Literacy is a component of IDI, as literacy skills are essential for participation in online life – from basic navigation, to content creation. On this measure, we would expect Afghanistan and Pakistan to face greater

[11] World Bank GDP per capita (current (US$) 2010-2014 (where available) http://data.worldbank.org/indicator/NY.GDP.PCAP.CD accessed 22 September 2015

[12] World Bank, Doing Business 2015, p16 http://www.doingbusiness.org/~/media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB15-Full-Report.pdf Total of 189 countries in ranking. Composite measure including: procedures, time, cost and paid-in minimum capital to start a business; procedures, time and cost to get connected to the electrical grid; credit information systems; payments, time and total tax rate for a firm to comply with tax regulations; procedures time and cost to resolve a commercial dispute; time cost outcome and recovery rate for a commercial insolvency

challenges in getting its population online, than in countries with higher literacy levels such as Jordan and Lebanon.

Literacy (secondary +)[13]	Country
0-33% (low ranking)	Afghanistan
34-65%	Pakistan,
66-89%	Egypt, United Arab Emirates, Morocco, Tunisia,
90% + (high ranking)	Qatar, Saudi Arabia, Jordan, Lebanon, Turkey

Table 4

According to UNESCO, growth in the languages available for some of the main online services has not kept pace with growth in Internet usage, and a significant number of national languages (such as Hindi and Swahili) are "without a significant online presence matching their real world speaker base"[14]. English language dominates as a proportion of web content (55% in 2013 according to W3Techs). Arabic, with more than 200 million speakers' offline, accounts for less than 1% of web content[15].

We have created a measure that combines linguistic[16] and cultural[17] homogeneity, and the availability of web content in languages spoken in a country[18].

The first element (linguistic and cultural homogeneity) indicates likely strength of local language content markets; the second measures availability of local language content in a country's most visited websites.

We find a correlation between high linguistic and cultural homogeneity, and high instances of local language web content.

[13] World Bank Education http://data.worldbank.org/indicator/SE.ADT.LITR.ZS/countries/SA?display=default (queried 18 May 2015). Data in range 2010-2014. Some countries have no data points.
[14] See Broadband Commission Report, 2015, section 2.2 "The Demand-side Challenge – Towards a Multilingual Web".
[15] See EURid UNESCO World Report on Internationalised Domain Names, 2014 figure 4, http://www.eurid.eu/files/publ/IDNWorldReport2014_Interactive.pdf
[16] Linguistic homogeneity, percentage of population speaking national language at home Ethnologue http://www.ethnologue.com (provides information by country), queried 19 May 2015. Main measure is number of 'principal languages' listed. Where the number of individual languages is greater than 20, the measure takes account of the percentage of individual languages classified as "institutional". For example, in China, 297 languages, of which 5% are institutional. Where a country has a high percentage of immigrant languages, this is recognized in the evaluation.
[17] Source: UNESCO World Report on Cultural Diversity 2009 http://unesdoc.unesco.org/images/0018/001852/185202e.pdf, migrant stock as a percentage of population, mobile students, domestic film production
[18] Linguistic and cultural diversity is a composite measure which includes cultural and language factors. Availability of web content in local languages is derived from Alexa.com rankings, measuring the number of top 20 sites in local languages.

Country	Linguistic and cultural homogeneity	Local language content[19]
Egypt	High, High	60%
Iran	High, Medium	80%
Jordan	Medium, High	60%
Morocco	High, High	60%
Turkey	High, High	65%
Saudi Arabia	Medium, Medium	45%
Pakistan	Medium, Low	35%
Afghanistan	--, Medium	30%
United Arab Emirates	Low, Low	15%
Qatar	Low, Low	20%

Table 5

On this analysis, local content (and eventually local domain name uptake) is more likely to thrive in Egypt, Iran, Jordan, Morocco and Turkey than in UAE or Qatar (which have more diverse population base and high percentage of migrant workers).

Possible distorting factors are international sanctions or local laws which result in popular applications not being available (see the policy and/or regulation section).

Internet access and usage

Without basic Internet access, there are few domain names and little local content. Low speeds and high costs inhibit demand for online services as the user experience is poor.

The ITU collects annual data on Internet uptake, including access through mobile devices. The online population across the region varies from 6% (Afghanistan) to 88% (United Arab Emirates)[20]. Broadband penetration rates vary from Afghanistan (0% fixed; 1% mobile broadband) to United Arab Emirates (11% fixed; 89% mobile). The ITU shows that Arab States'

[19] Threshold for local sites are percentage of Alexa.com top 20 sites in local language: 0-33%, low, 34-66% medium, 67%+ high)
[20] ITU time series by country 2000-2013.

average ICT Development Index score ranks below average for the world, just above the average for developing countries.[21]

Where broadband penetration rates are lowest, people are paying more for Internet access. Prices for pre-paid mobile handset-based 500 MB as a percentage of gross national income per person range from 0.3% (Qatar) to 11% (Afghanistan). The median for the region is 2.5% of income. It should be noted that measures relating to Internet uptake might miss important factors such as usage of Internet cafes, colleges or universities which can provide an important function in enabling people to access the Internet.

A 2013 Study by the Alliance for Affordable Internet[22] ranks Morocco as top of its index of developing countries for affordability. Morocco's high score is "the result of strong demand-driven policies", but notes that "with mobile broadband prices [at]… 80% of monthly incomes for those living in poverty (less than $2 per day), Morocco's government still has much work to do". The Study ranks Pakistan and Yemen in its 'least affordable' category.

Internet Exchange points keep local traffic local and stimulate Internet development by reducing costs and latency and have created local jobs (e.g. in Kenya and Nigeria).

Across the Arab States, the uptake of Internet Exchange Points is fairly low:

Number of Internet Exchange Points per country	Country
0	Afghanistan, Morocco, Jordan, Iran, Qatar
1	Saudi Arabia, United Arab Emirates, Lebanon, Pakistan, Turkey
2	Egypt, Tunisia

Table 6

The provision of a regional IXP (whether for the continent of Africa or for the MEAC region) could help to drive Internet development, and (indirectly) domain name registration across the region.

Internet users and Internet use

Before considering the specifics of the domain name, hosting and value added markets in the region, this section begins with analysis of a qualitative survey of 700 Internet users in the region. The survey, conducted through local specialist survey providers based in the region, asked users about how they use the web, what languages they use when interacting with

[21] See Chart 3.4, Measuring the Information Society Report 2014

[22] Alliance for Affordable Internet. (2013). The Affordability Report. www.a4ai.org/wp-content/uploads/2014/01/Affordability-Report-2013_Final-2.pdf

different people or organisations, and the extent to which political or regulatory factors influence their online choices. The number of responses (700) does not represent a solid basis for drawing firm conclusions, and none are drawn in this study. The results are offered as qualitative feedback only.

A sub-section presents the findings of the end user survey that was developed in December 2015 – January 2016 following ICANN staff requests. The authors received the feedback from 57 respondents in the region which were reached out to through contacts provided by ICANN staff. One of the purposes of the supplemental survey was to obtain a higher number of from countries in the region with large population bases, especially Egypt and Saudi Arabia, where few responses had been achieved in the initial survey. Sadly, only one further response was received from Egypt, and seven further responses from Saudi Arabia. Therefore the primary objective of the supplemental survey was not achieved. We have reported on it below as it was requested by commentators who responded to the public comment.

Who responded to the qualitative survey?

The information in this section was gained from the multi-country survey undertaken via local survey companies for the purposes of this Study. 700 responses were received from 15 countries. The study was conducted in local language, and English where appropriate, via local survey companies in Morocco, Tunisia, Turkey, Pakistan and Afghanistan. The distribution of responses is shown in figure 1. Throughout this report, unless stated otherwise, the countries included in "Other" are Qatar, Saudi Arabia, United Arab Emirates, Egypt, Sudan, Jordan, Lebanon and Algeria.

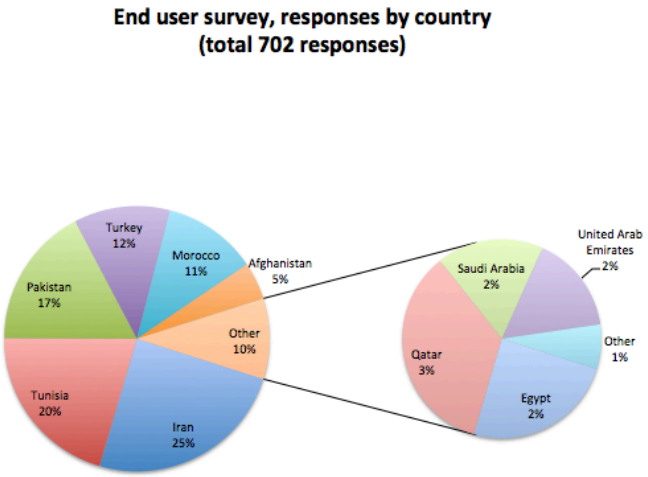


Figure 1

The aim of the survey was to achieve responses from a variety of age groups and backgrounds.

30% of respondents were aged between 15-24, 45% between 25-34 and 17% between 35 and 44. Users aged 45 and upward less well were represented (8%), perhaps reflecting the young populations of many countries in the region, and the demographics of web usage (i.e. lower uptake amongst older generations).

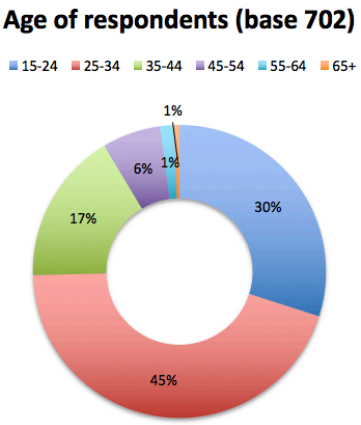


Figure 2

We asked users to identify themselves by stakeholder group, using the classic Internet governance categories (government, private sector, civil society, academic or technical community). While the responses showed the diversity in stakeholder group, it also appears that many people did not understand these categories, often selecting several at once. In future studies, it is recommended to ask people's occupation and for researchers to allocate into the UN categories.

Social or business use of the Internet?

Overall, our users tended to use the Internet for social (63%) rather than business reasons (37%). The balance between business and social usage varied widely amongst the countries surveyed.

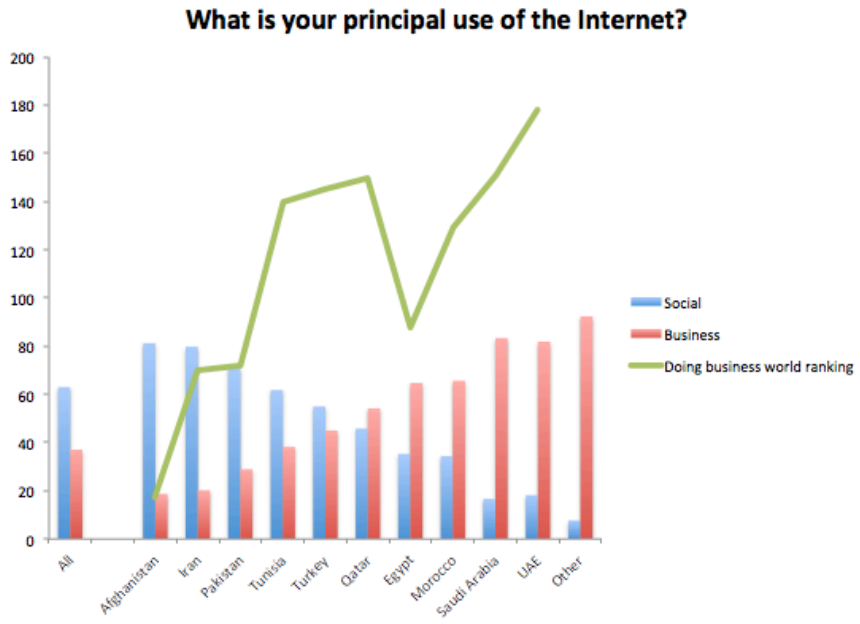


Figure 3

There is a correlation between increasing business use and the World Bank's "Doing Business" rankings. Studies have underlined that developing country GDP can be boosted by 1.4% by a 10% increase in broadband penetration[23]. The correlation seems to support the linkage between Internet development and economic well-being.

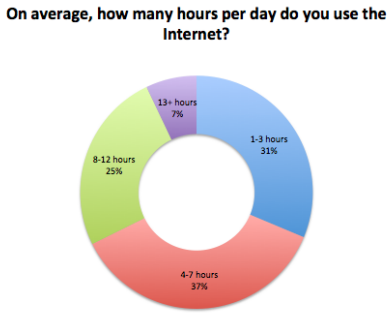


Figure 4

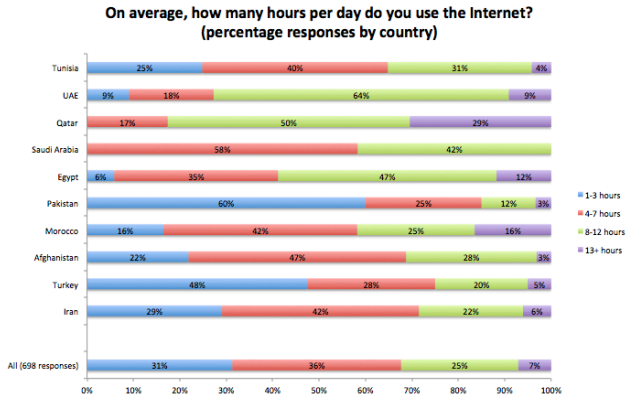


Figure 4.1

Users were asked on average how many hours per day they used the Internet. 31% answered between 1-3 hours, and 7% reported that they spent 13+ hours per day online.

[23] Qiang and Rossotto, Extending Reach and Increasing Impact, Chapter 3, Economic Impacts of Broadband (World Bank, 2009).

The median hours per day by country varied considerably. Pakistan had the lowest median hours per day (3 hours); Qatar and UAE had the highest (10 hours). Again, a correlation between higher ranking countries on the World Bank's "Doing Business" scale and higher median hours per day spent online was observed.

Websites or social media?

Patterns of Internet use across the region are likely to affect domain name registrations. There is high uptake of social media across the region. According to the Arab Social Media Report (2014), there are 81 million Facebook users and 6 million Twitter users in the Arab world, and use of social media is growing rapidly[24]. The enthusiasm for social media is in stark contrast to the comparatively low domain name registration figures. High social media uptake may reflect the young population across the region. For example 50% of the population of North African countries is under 25 years of age, compared with 27% in Europe.[25]

Does this imply that users from the region do not require domain names in order to participate in online life? If so, such a finding would adversely affect the potential for domain name registrations in the region.

What type of content have you uploaded or shared online in the past 12 months?

Our survey asked users what type of web content they had shared in the past 12 months.

In total, 545 users answered this question, and on average each user named 2.4 types of content. (See figure below).

[24] Mohammed Bin Rashid School of Government, Arab Social Media Report #6, "Citizen Engagement and Public Services in the Arab World: the potential of social media", June 2014 http://www.mbrsg.ae/getattachment/e9ea2ac8-13dd-4cd7-9104-b8f1f405cab3/Citizen-Engagement-and-Public-Services-in-the-Arab.aspx

[25] See US Census Bureau, population by youth age groups, for North Africa (youth population) https://www.census.gov/population/international/data/idb/region.php?N=%20Results%20&T=13&A=both&RT=0&Y=2015&R=113&C=, compare with Europe, https://www.census.gov/population/international/data/idb/region.php?N=%20Results%20&T=4&A=both&RT=0&Y=2015&R=130&C=

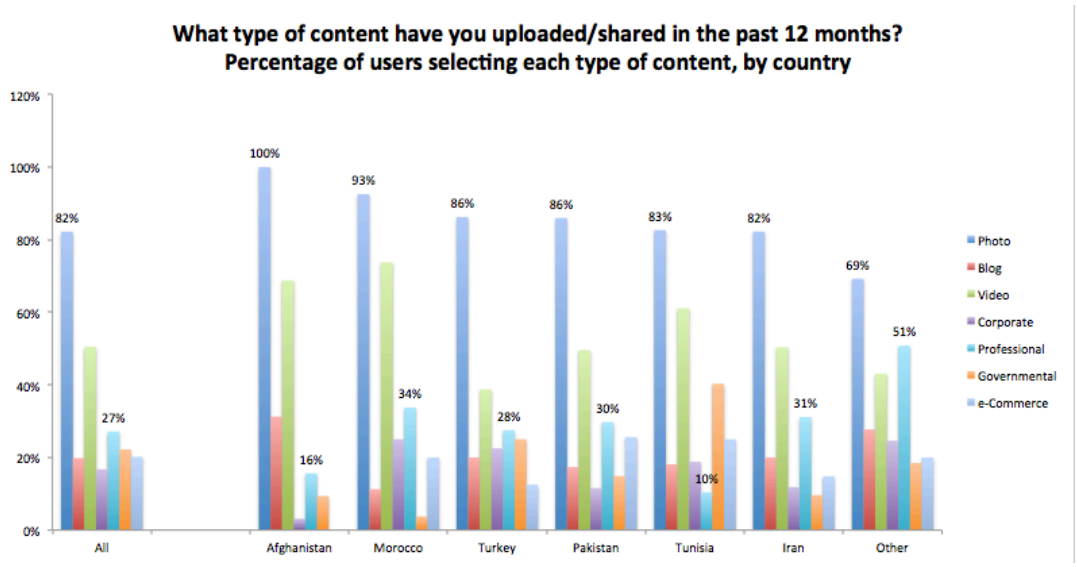


Figure 5

Photographs were the most popular type of content uploaded/shared across every country, with 84% of users having uploaded a photo in the past 12 months.

The greatest variation was seen in work related types of content: corporate, professional, governmental, e-commerce. Afghanistan had lower percentages (0-20%) for work related content, and Other countries had higher percentages (18-51%). There are correlations between countries with higher proportions of work related content and those with greater time spent on line, higher business (rather than social) use of the Internet, and higher rankings on the World Bank's "doing business" scale.

Sharing through websites or social media?

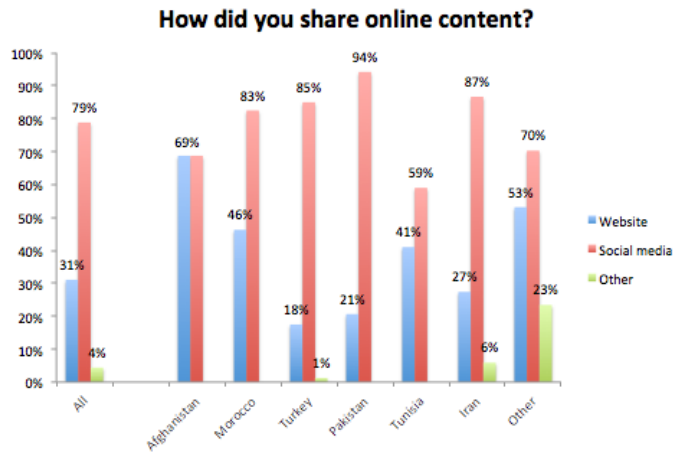


Figure 6 User preferences for sharing online content (social media or websites)

To test whether social media may be replacing websites as the preferred online medium across the region, users who had shared content were asked whether they had used a website, social media or other.

Social media, as expected was the most popular way for people to share content (79%). But websites were also used (31% of responses). The highest percentages surrounding websites were perceived in Afghanistan, Other countries and Morocco.

Use of websites for sharing is strong in the region, indicating potential for the domain name market.

How do you prefer to interact? Online or offline?

Cultural and social values may have an impact on domain name potential in the region. To test whether people in the region prefer to interact offline rather than online, we posed a set of every-day scenarios, such as “How do you prefer to interact with your favourite retailer?”, “How do you prefer to interact with your friends” etc.?

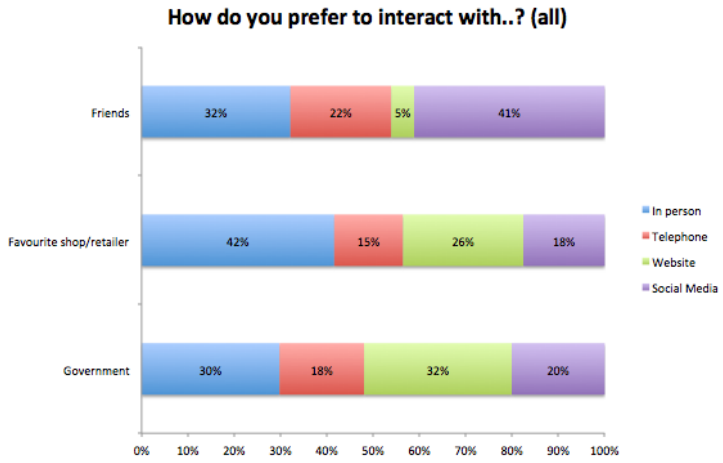


Figure 7 User preferences for interacting with friends, retailers, and government

Overall, survey respondents expressed preferences for both online (website, social media) and offline (in person, phone) types of interaction. They adapt their preferences according to context, preferring to interact with their government by website, their favourite retailer in person, and their friends through social media.

These results suggest that people from the region make rational choices in the way that they interact with different groups. The split between website and social media indicates that where transactions take place, or authoritative information is sought, websites are preferred over social

media. Meanwhile, interacting with friends through social media is what many of the popular platforms were designed for.

There is clear potential for the domain name market in the region, particularly in business and governmental sectors.

Users were also asked about how they prefer to consume articles, journals, videos and television (buy the physical article, online subscription, links shared through social media, other). The answers revealed a strong preference for online consumption[26].

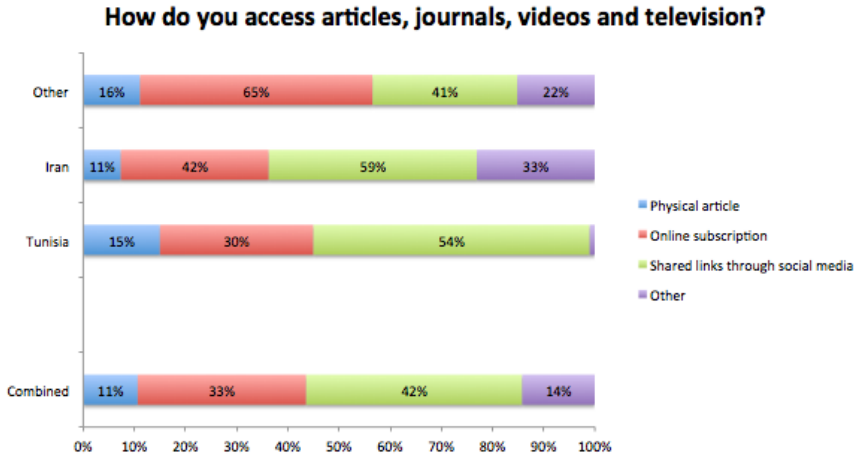


Figure 8 User preferences for accessing journals videos and television

Results of supplemental survey (December 2015-January 2016)

Following public comments on the draft report, the study team reached out to contacts especially recommended by ICANN staff, to elicit further responses. Between December 2015-January 2016, a further 57 responses were received. Forty-six (46) were from Pakistan, seven (7) from Saudi Arabia, two (2) from Turkey, and one (1) each from Egypt and Morocco. The study team thanks all those who distributed and completed the supplementary survey.

Because of the low number of responses, we view the evidential value of the supplemental survey as weak, although it does make some contribution to the qualitative data available.

Demographics: The average (median) age of those responding to the supplemental survey was 31 years. The age range was narrower than the original survey. As with the original survey, respondents in the supplemental survey appeared not to understand the classic Internet governance stakeholder categories, with 25% selecting more than one option (eg Private sector/Technical Community/Academic). This is not to say that the survey responses are

[26] Note that due to an error, this question was not asked in the surveys for Afghanistan, Turkey, Morocco or Pakistan.

inaccurate in this regard; more that it highlights the overlapping nature of some of the stakeholder classifications.

Use of Internet: business or social: In contrast to the original survey, the majority of those who responded to the supplemental survey used the Internet mainly for business reasons (64%). In contrast to the original survey, users in the supplemental survey tended to spend more time online per day, with the most popular response being 8-12 hours.

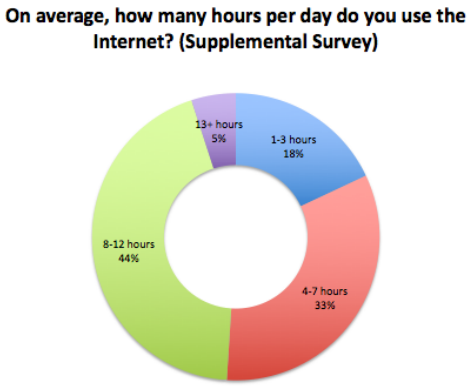


Figure 9

Type of content shared: Despite the different demographics in the supplemental survey, the proportions of content uploaded online in the past 12 months was broadly similar, with photos and videos popular across both samples. The main difference was an increase in the percentage of 'professional' content (67% compared with 27% in the original survey), perhaps reflecting the higher levels of business use seen amongst our supplemental survey sample.

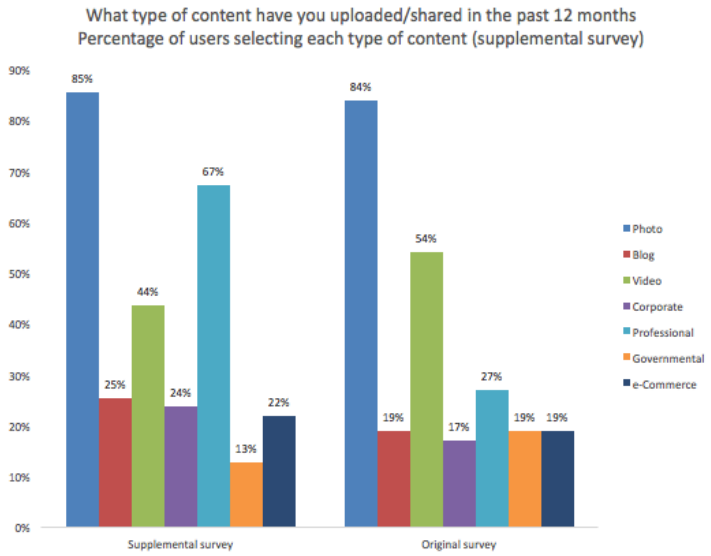


Figure 10

Website or social media? The responses from the supplemental survey show a greater level of engagement in online sharing than the larger sample in the original survey. Across both groups, the majority share through social media, and a significant but lower percentage share through websites. Perhaps reflecting the higher business use amongst the demographic of the supplemental survey, the sharing through website percentage increased to 55% (from 31% in the original survey). However, with a small data sample, low changes in numbers can result in high percentage differences. In both surveys, many shared through both websites and social media.

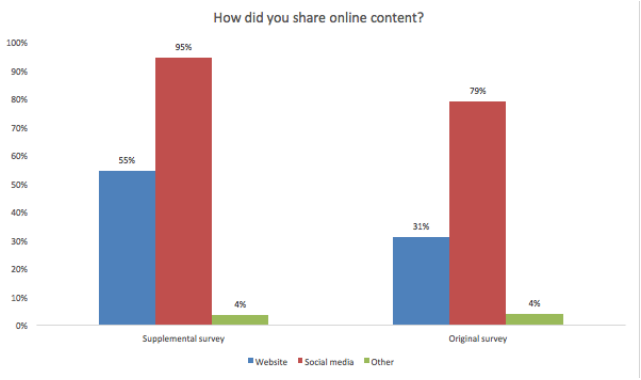


Figure 11

How do you prefer to interact? Online or offline? As with the original survey results, the responses indicate that people switch medium according to the type of interaction, showing a preference for websites in interactions with government and retailers.

The supplemental survey responses indicate that people prefer to interact with their friends through social media, and their governments through website (33% compared with 32% in the original survey). There was more of a preference to shop online in the supplemental results (65% compared with 26% in the original survey), and more of a preference to interact with government in person (45% compared with 30% in the original survey).

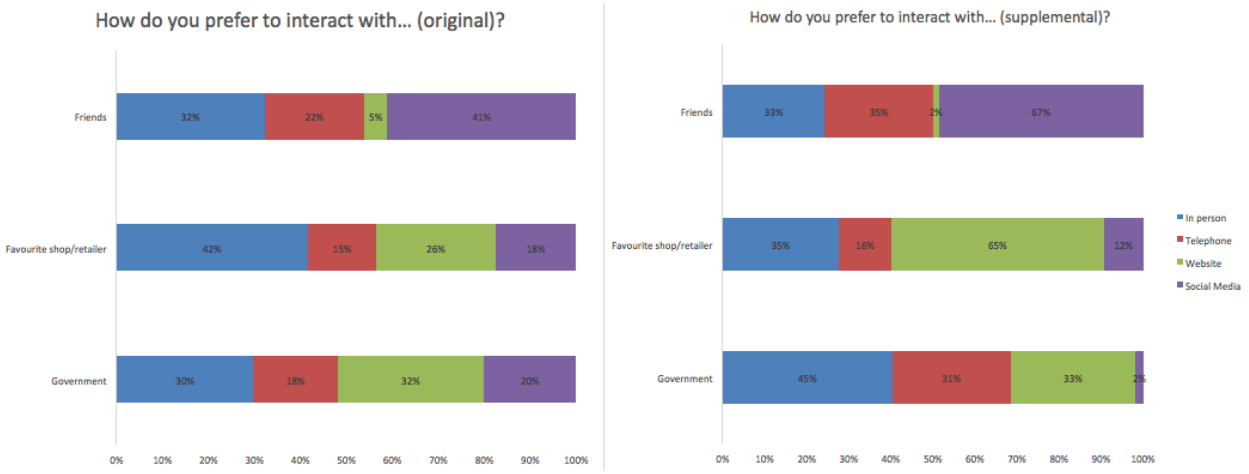


Figure 12

As with the original survey, and despite the immense difference in sample sizes, the supplemental results indicate that people are consuming news primarily through online sources.

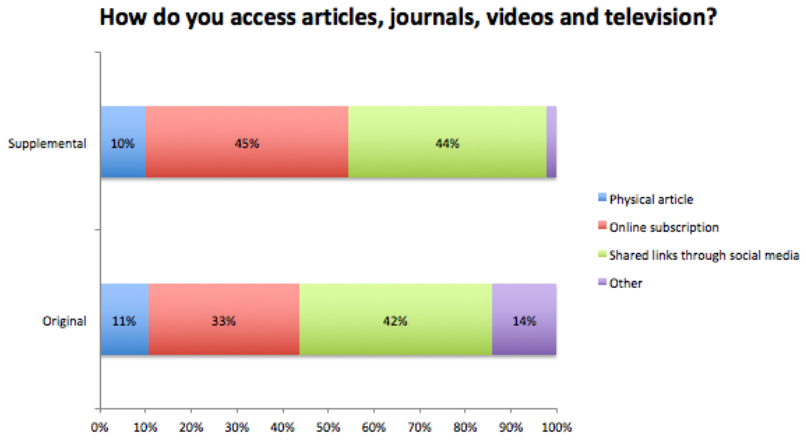


Figure 13

What do the results tell us?

Results from the original qualitative survey showed that Internet users throughout the region are actively creating content of all types. While use of social media to publish or share such content was expectedly high, there was also solid use of websites to publish content.

The qualitative data suggests that people from the region seem just as keen to use online ways of interacting as their counterparts in the rest of the world, and make rational choices about how they interact with different groups. There is a strong preference for consumption of news and videos online – either through subscriptions or links shared in social media.

These findings indicate good potential for the domain name market in the region.

While the sample size of the supplemental survey is less than 10 % of that of the original survey, the broad correlation of many results gives us more confidence in the methodology and representativeness of the qualitative survey.

The importance of local languages

When considering the wider issue of what might promote or inhibit domain name uptake in the region, language is a key factor.

- Users need to find content in languages they understand;

- If a language is used for web content, more content is likely to be created in the same language[27].
- Users in the region use domain names for direct navigation and for making decisions about which search results to click. If users cannot understand those domain names, they will be at a comparative disadvantage to other users when performing basic Internet navigation.

We tried to gain an understanding of what languages people from the region use to communicate with different groups (e.g. government, their employer, friends), or to perform every day online tasks (shopping, posting videos, writing blogs or online comments).

We learned that people from the region are highly adaptable; many can switch language according to context. Users prefer to use their mother tongue for communicating with their government, and with friends. When posting official content for their employer, they are more likely to use popular global languages (French or English).

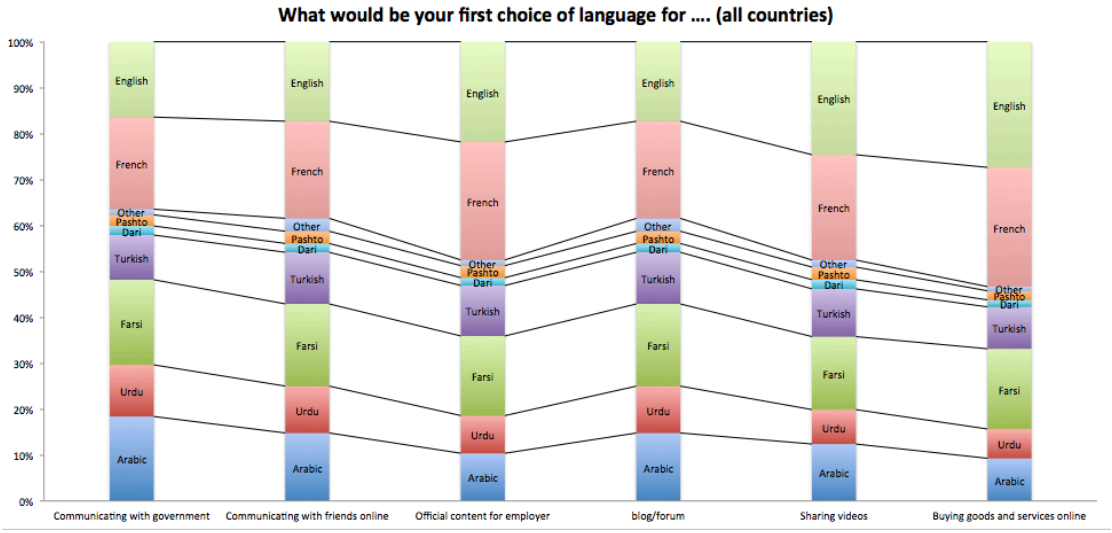


Figure 14

Users said they were most likely to use their mother tongue in online comments or blog posts, and less likely when they share videos. When users publish materials or buy goods and services online, their use of mother tongue is lowest of all.

Farsi speakers (Iran) were least likely to switch language according to context. Arabic and Urdu speakers were more likely to do so.

[27] See for example, the experience of the Eton of Cameroon (referenced in the EURid UNESCO World Report on IDN 2014).

11% of users from the region are more likely to use English when shopping online than they are when communicating with their government. This is likely a response to the dominance of English language online retailers. For example, retail platforms Amazon, eBay and AliBaba.com are popular in the region[28]. AliBaba.com does not have an Arabic language interface, and its localised services for the region (United Arab Emirates, Saudi Arabia and Pakistan) are all English language interfaces. Amazon does not provide a localised site for any country in the region[29]. eBay has a site for Turkey, but no other countries in the region[30].

The results by country illustrate how localised language use is: only Pakistani users highlighted Urdu, only Iranians mentioned Farsi, and only Afghans mentioned Pashto and Dari. Arabic was highlighted by users from Tunisia, Other countries, and Morocco. Yet, it is interesting to note that the Arabic used in these regions reflected regional specificity, and while literary Arabic was the predominant form, region variations amongst users of different countries do exist.

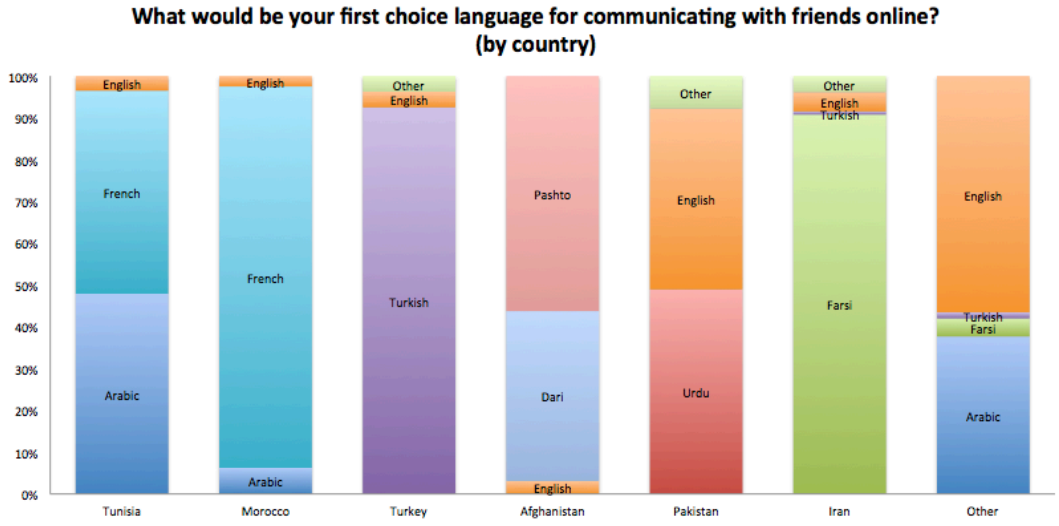


Figure 15

The findings are consistent with the disproportionate popularity of English language online[31]. They illustrate the adaptability of up to 50% of users from the region, who are ready to switch language if needed. At the same time, half the region's users would be excluded from an online experience unless they can use their mother tongue.

[28] Source: Alexa.com, Amazon features in the top 50 most popular sites across 16 countries in the region, eBay features in 7 countries. Alibaba.com (a Chinese provider) is also popular in the region, featuring in the top 50 sites of 16 countries

[29] Amazon.com lists localized sites in Australia, Brazil, Canada, China, France, Germany, India, Italy, Japan, Mexico, Netherlands, Spain, UK

[30] See list of eBay sites at www.ebay.com

[31] See EURid UNESCO World Report on Internationalised Domain Names, 2014, p 21 http://www.eurid.eu/files/publ/IDNWorldReport2014_Interactive.pdf

Unless users from the region are able to interact with online services, service providers, and domain names in their own language, domain name registration in the region is likely to underperform versus its potential.

The findings from the supplemental survey have limited weight, given the low number of responses, and the disproportionate representation of a single country (Pakistan) in the data set. However, there was evidence that users switch between languages, preferring mother tongue (Urdu or Arabic) when communicating with friends and governments online. As with the original survey, English language was strongly represented across all categories as the first choice language (particularly for online shopping).

Policy and/or regulation

The UN Special Rapporteur has noted that laws which impose liability on Internet intermediaries are likely to have an impact on freedom of expression[32]. Around the world, states have been tending to increase the legislative and regulatory burdens on content providers.[33] The region is characterised by restrictions on Internet content and intermediaries. According to Freedom House, the Middle East and North Africa region is 5% free[34] (compared with Western Europe, 81% free), and categorises all the countries in the region as either "Not Free" or "Partly Free" [35]. A report by Hivos[36] assesses the status of Internet freedom across Egypt, Iran, Iraq, Jordan, Syria and Tunisia. It concludes that Tunisia is "on track to achieve positive political reform which has been an enabler of Internet openness."

The following are examples of relevant laws or regulations affecting Internet in the region:

- Turkey's Law 5651 on the Prevention of Crime Committed in the Information Technology Domain (2007) imposes obligations on content providers, ISPs and web hosts. In 2013 social media sites were banned in Turkey after the Taksim Gezi Park protests. Both Twitter and YouTube were closed by a decision of the Turkish court. A new law, passed by Turkish Parliament, gave Turkey's Telecommunications Directorate (TİB) personnel authority to block access to specific websites without a court order.
- In Saudi Arabia, a new law for online media (2011) requires all content providers to register with the government[37].
- Pakistan banned YouTube in 2013 and unblocked it in January 2016[38].

[32] Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression, Frank La Rue, 16 May 2011, http://www2.ohchr.org/english/bodies/hrcouncil/docs/17session/A.HRC.17.27_en.pdf
[33] https://freedomhouse.org/report/freedom-net/freedom-net-2014#.VenDvZ1VhBc
[34] See Freedom House, https://freedomhouse.org/regions/middle-east-and-north-africa#.VenDfZ1VhBd
[35] https://freedomhouse.org/report/freedom-net/freedom-net-2014#.VenDvZ1VhBc
[36] Hivos, Internet Governance: the quest for an open Internet in the Middle East and North Africa, Al-Radhi et al, 2015 http://www.igmena.org/userfiles/files/InternetGovernance_web.pdf
[37] See Freedom House, https://freedomhouse.org/report/freedom-net-2012/evolving-tactics-internet-control-and-push-greater-freedom

- Iran blocks major platforms such as Twitter and Facebook. Iran is believed to have one of the most extensive technical filtering systems for online content.
- Kuwait's Cyber Crimes Law No. 16 (in force from 12 January 2016) and Press and Publications Law (no 3/2006) make acts such as prejudicing public morals, criticizing the Head of State, and insulting the judiciary punishable by fines, revocation of newspaper licences, or imprisonment.

In addition to feedback from the industry (both within and outside the region), we asked users to identify how far relevant legislation or regulation might affect their hosting decisions.

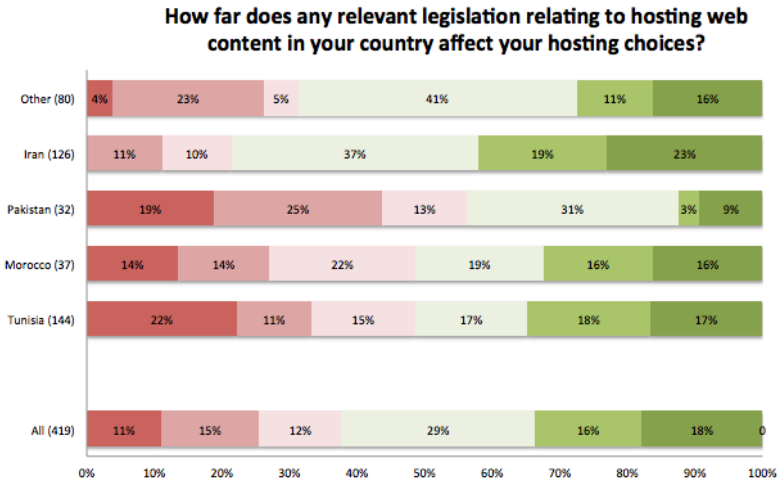


Figure 16 Impact of legislation on users' web hosting choices

Overall, 34% of respondents said that legislation affects their hosting decisions always or often. At the other end of the scale, 26% said that legislation never or rarely affects their hosting decisions.

By country, respondents from Iran (42%) said their hosting decisions were most likely to be affected by local legislation. This conflicts with answers to the question "Do you prefer to host content locally?" where 47% of respondents from Iran said they would prefer to host locally. Respondents from Pakistan (44%) said their hosting choices were least likely to be affected, a result echoed in the supplemental survey (where responses from Pakistan made up the majority of answers).

There are few benchmarks to help determine whether these results are typical or not. The Internet Society's study of Rwanda states that "stakeholders did not indicate concerns over government intervention as a considerable factor in hosting decisions."

[38] Guardian http://www.theguardian.com/world/2015/feb/18/pakistan-war-of-the-web-youtube-facebook-twitter. The ban was lifted recently: http://www.wired.com/2016/01/youtube-returns-to-pakistan-after-three-year-ban/

If legislation or regulation drives people to host offshore, that is likely to adversely impact the availability of local content (applying the findings of UNESCO, ISOC and OECD, 2011), and may in turn inhibit domain name uptake in the region.

Dominant thinking is that countries which do not conform to Western standards of freedom of expression are likely to inhibit Internet use by their citizens, thus denying their countries' economic growth. The arguments appear logical, even if examples such as China (where there is high Internet use and growth despite restrictions on freedom of expression) are difficult to fit into that framework.

The evidence from the region also challenges this view. There is enthusiastic uptake of social media in some countries in the region, and evidence that users are sharing multi-media Internet content (photos, videos, blogs and work related materials). There is no doubt that 'chilling effects' on speech (i.e. self-censorship) occur in authoritarian regimes. While some users say they would actively choose to host abroad, it is also clear that others would not. It is not enough simply to invoke freedom of expression as an inhibiting factor within the region – the reality appears to be more complex. We need to understand more deeply how relevant regulation and legislation is affecting people's choices of what content they share.

III. Factors affecting the wider domain name market in the region

This section provides a summary of the factors supporting the uptake or holding back of domain registrations in the Middle Eastern region.

Hosting and value added services in the region

Why is hosting relevant?

As with any communications medium, the Internet's value for people derives from its content. More than half of web content today is in the English language. To benefit fully from the Internet, users must be able to find content in languages they understand.

Why is the country of hosting relevant to issues of language? Research[39] has found a high correlation between local servers and local language content. Therefore, a strong local hosting market can be the foundation of a virtuous circle, fostering local content, driving Internet uptake, and stimulating domain name registration.

[39] Internet Society, OECD, UNESCO, "The relationship between local content, Internet development and access prices, 2011, http://www.oecd.org/internet/ieconomy/50305352.pdf

The wider Internet services ecosystem within the region – hosting

Quantitative analysis for this report (see pages 75-77) indicates that up to 50% of gTLD domain name-based websites associated with the region are hosted abroad. Our hypothesis was that the market for value added Internet services in the region remains fairly weak.

To test this hypothesis, we undertook two lines of research:

1. Automated analysis of the 500 most popular websites across countries from the region, as listed in Alexa.com to determine the country of hosting.
2. Our survey asked end users about their hosting experience:
    - Do you have a website? (Yes/No)
    - Do you prefer to host your content locally? (0 to 5, 0 = never, 5= always)
    - Is it cheaper for you to host abroad rather than locally? (0 to 5)
    - How far does any relevant legislation relating to hosting web content in your country affect your hosting choices? (0 to 5).

Popular websites in the region

The research team reviewed the country of hosting of the 500 most popular websites across the region (as listed in Alexa.com). Although the top four sites across every country in the region (and the rest of the world) tend to be Google.com, Google (local), Facebook and YouTube[40], there are also many local or regional sites. Of a potential data set of 10,000 websites (500 across 20 countries), there were more than 4,800 unique sites (suggesting a country-specific focus for 40% of popular sites).

So, where are the popular sites for each country hosted?

[40] See Taylor, E., "The Privatisation of Human Rights" Global Commission on Internet Governance, 2015 www.ourinternet.org/publication/the-privatization-of-human-rights-illusions-of-consent-automation-and-neutrality/

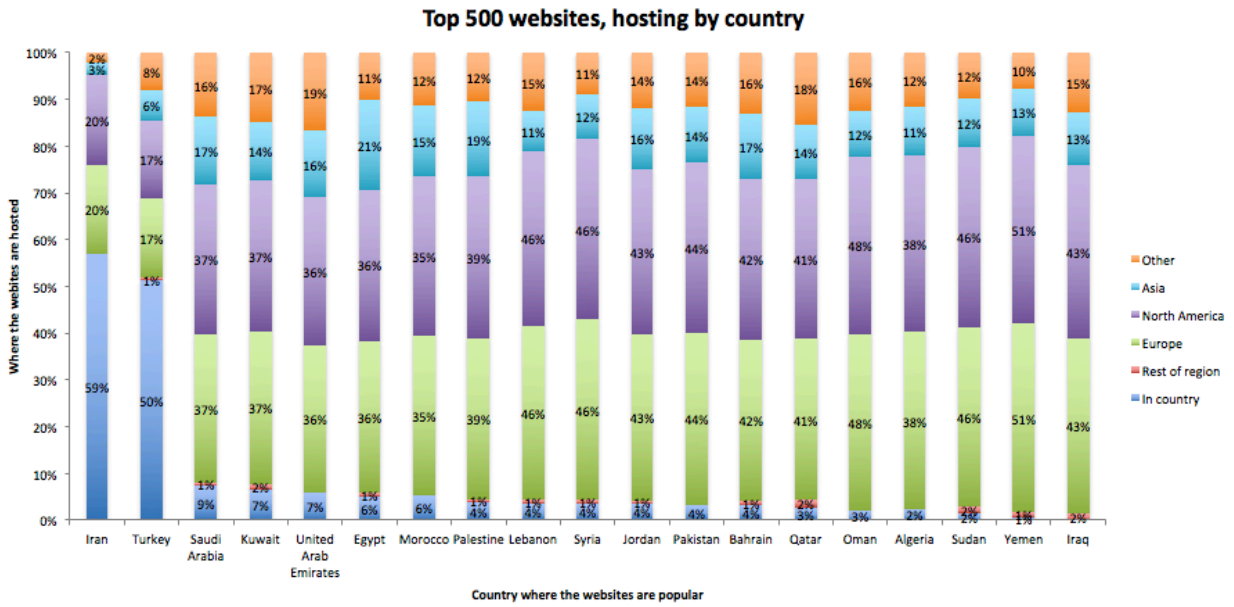


Figure 17 Hosting country for the region's most popular websites

Iran and Turkey both have thriving local hosting, with over half of the popular sites hosted in country. These are the exceptions within the region, where the median is 5% of popular sites hosted in country, 42% hosted in the United States, and 24% in Europe. Some local hosting providers in the region may be reselling cloud services or renting server space from other regions, thus distorting results.

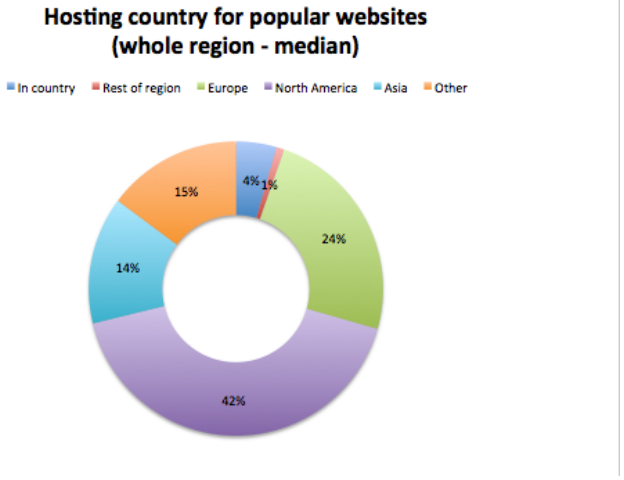


Figure 18 Region-wide median for hosting country of popular websites

In summary, analysis of the hosting country of the region's most popular websites supports the hypothesis that, with the exception of Iran and Turkey, local hosting provision is weak.

Website and hosting choices, end-user perspective

To complement the quantitative analysis hosting patterns in the region's popular sites, we also asked end users in our qualitative survey about their choices for content hosting. Survey respondents were asked whether they had a website, whether they preferred to host content locally or abroad, and which of those options was cheaper.

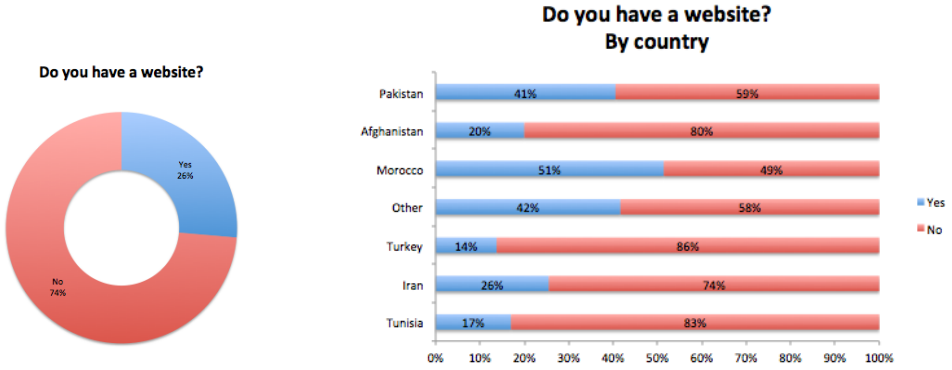


Figure 19 Percentage of end-users in our survey having a website

Overall, one quarter of survey respondents said they had a website. There was considerable variation across different countries from 14% (Turkey) to 51% (Morocco). The results from Turkey were a little surprising, given that the country has the highest uptake of domains in the region, but see our previous comments on possible causes for this.

In the supplemental survey, of 57 responses, 41% said they had a website.

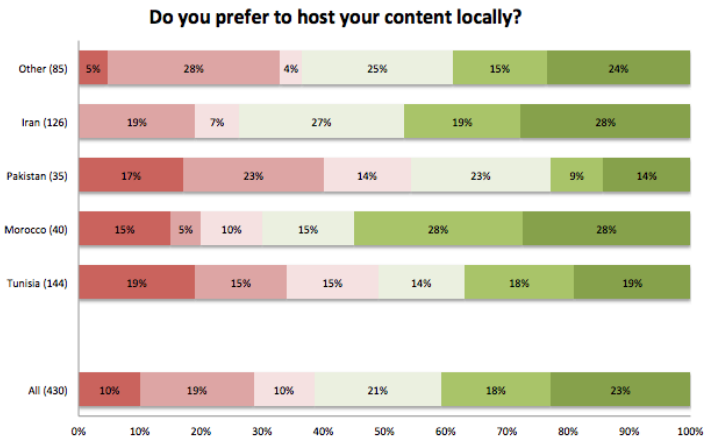


Figure 20 Preferences for hosting content locally

We asked users whether they prefer to host their web content locally. An important conceptual difference between hosting and domain name registration is that when considering hosting, laws relating to content will apply. This is not the case for pure domain name registrations.

Overall, there was a preference for hosting locally. 41% prefer to host locally, and 29% would prefer not to. Preferences for local hosting are most pronounced in Morocco and Iran. Preferences for hosting abroad are most pronounced in Pakistan, Tunisia and Other countries[41].

In the supplemental survey there was a strong preference (55% of 53 responses) for hosting locally.

Therefore, there is good market potential for hosting services based in the region.

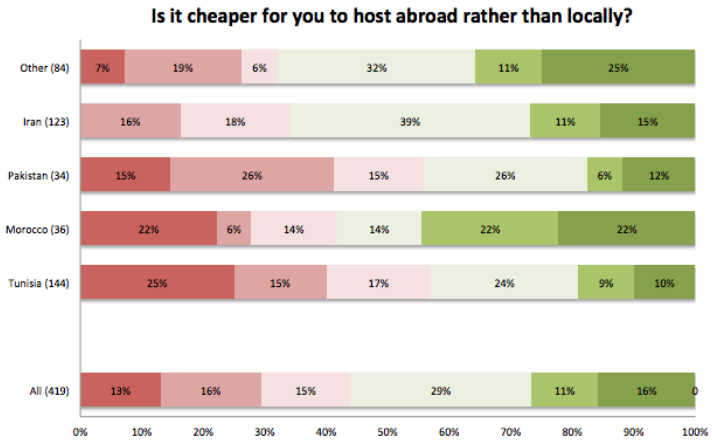


Figure 21 Cost of hosting content locally

Overall, answers to the question "Is it cheaper for you to host abroad, rather than locally?" were evenly balanced. Again, there were differences within the region. More than 40% of users in Pakistan and Tunisia said it was never or rarely cheaper to host abroad. Meanwhile, 44% of users in Morocco said it was always or frequently cheaper to do so[42]. The mixed results are echoed in the supplemental survey.

Research by the Internet Society (2015)[43] found significant incentives for users in developing countries (such as Rwanda) to host overseas, especially cost. Local content providers choose to host content abroad because the cost is lower – a rational choice. However, the cost to the Internet Service Provider of delivering local content back into the country through international transit can be very high. The ISPs will pass on those high costs to their customers. Therefore, a rational choice (to save costs) by customers' results in two negative impacts on the local market: high costs of transit and high latency (slow speed) both limit demand.

[41] Note that for this analysis, due to low numbers of responses, Afghanistan and Turkey were included in "Other" countries.

[42] Note that for this analysis, due to low numbers of responses, Afghanistan and Turkey were included in "Other" countries

[43] Kende, M., and Rose, K., "Promoting local content hosting to develop the Internet ecosystem" (January 2015).

The Internet Society advises that hosting products could usefully be tailored to "more closely match the needs of the local content market, particularly the growing market in smaller websites."

End user awareness of domain names and intent to purchase

Domain names, while essential to an online experience, often lurk in the background. Low end-user awareness of domain names may inhibit market potential. At the same time, if user habits are moving away from domain names towards other means of Internet navigation (e.g. search, social media), that too could adversely impact market potential.

According to our survey, 49% of users in the region know what a domain name is. This suggests that user awareness at the most basic level is not a barrier for uptake.

Nearly 95% of those in the supplemental survey said they knew what a domain name is. The original survey was conducted through local survey specialists who were specifically instructed to target a representative demographic, with diverse age, socio-economic and educational backgrounds. The supplemental survey was kindly distributed through ICANN's network of contacts many of whom are pillars of the Internet community.

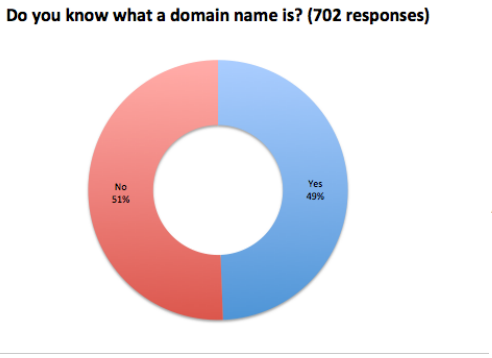


Figure 22 End user awareness of domain names

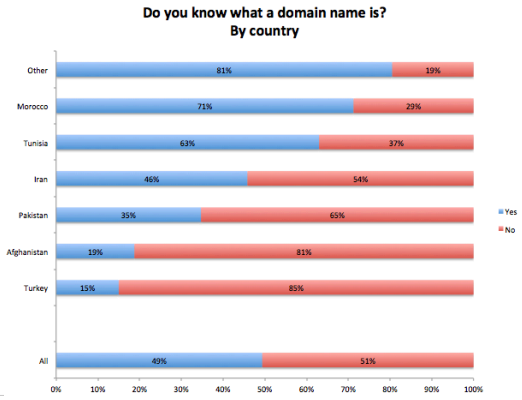


Figure 22.1

Responses by country indicate lower levels of awareness of domain names in Afghanistan and Turkey. Given that Turkey has the highest level of domain name registration in the region, the results are slightly surprising (but see 'Observations on the Methodology' above. The anomaly may be due to the small sample size (80)).

Use of domain names in locating online resources

Domain names assist users in locating online resources, but have advances in search diminished the value of memorable domain names, thus inhibiting domain name uptake?

The Domain Name Association's Global Domain Name Preferences Survey (DNA, 2015)[44] asked:

- I do this most often
  - Type the domain name address directly into the browser address bar
  - Type the company or relevant term into a search engine

- When doing a search, how regularly do you pay attention to the domain name or website name in the search results before making your selection?
  - Always
  - Sometimes
  - Never

According to DNA 2015:

- 35% of global users type the domain directly into the address bar ("direct navigation") most often, and 85% did so all or part of the time.
- 94% of global users checked the domain name at least some of the time before clicking on a search result.

We asked users from the region the same questions, to reveal any differences between the global picture and the region.

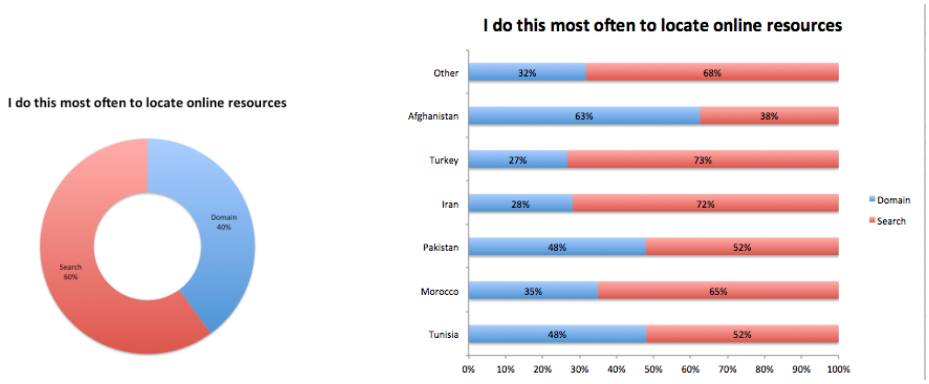


Figure 23 How users locate online resources (direct navigation or search) Figure 23.1

Overall, in our qualitative survey 40% of users from the region said that they do direct navigation most often. This is 5% higher than the global results (DNA, 2015). The highest uses of direct

[44] http://thedna.org/documents/Global_Domain_Name_Preferences_Survey-Domain_Name_Association-Feb2015.pdf

navigation were found in Afghanistan (63%), Pakistan and Tunisia (48%). The supplemental survey had a lower instance of direct search (26%), lower than that of global users.

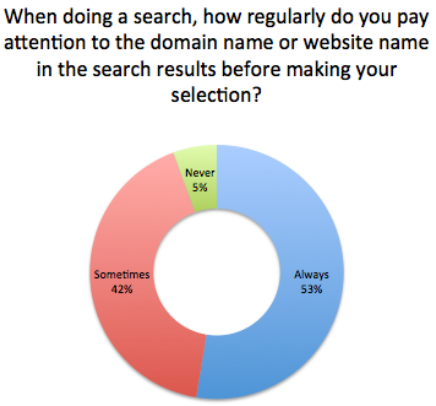


Figure 24 Do users pay attention to domain names in search results?

Nearly all users from the region (95%) said they are likely to check the domain name before clicking on a search result. This is comparable to the global figure, and to the results of the supplemental survey.

Users from the region rely on domain names when finding online resources. They are more likely to use domains for direct navigation than are global users. Nearly all consider the domain name before clicking on search results. These results suggest potential for growth in domain name registration in the region.

IV. The domain name industry in the MEAC region

This section presents a view of the MEAC region's domain name industry from three perspectives, that of registries, registrars, and finally end-users or registrants.

Domain name registries

Preamble

The research team has conducted an in depth investigation[45] into twelve of the twenty six countries in the MEAC region, with various levels of Internet penetration. In order to gain insights into the operation of their respective ccTLDs, the thirteen national registries of these countries were surveyed[46]. Annexed to this document are the factsheets assembled by the team in "raw data" form. This overview will not aim to qualify the data, but simply presents the survey findings in a concise and structured manner. This data will be used throughout the report as a reference.[47]

First of all, the type of organisation, as well as how long these registries have been operating, will be presented. Secondly, we will examine the presence of Internationalised Domain Names[48] to see how many of the twelve countries studied offer a ccTLD IDN equivalent. Third the practical, organisational aspects of the registries will be illustrated. This includes the registration system, as well the number of registrars, resellers and the accreditation process. Fourth, the additional services provided by the registries will be compared, services such as languages offered, DNSSEC presence and WHOIS lookup. Finally, we will examine market outreach programmes, including the presence of promotional activities for registrars and registrants, as well as any restrictions on domain name registration. In the attached tables with the registries' compiled raw data, data is included indicating the number of domain name registrations, their renewal rates as well as the price per domain name on an individual registry basis.

Registry type

[45] Sources: registry websites, CENTR and other ccTLD regional organisations' surveys, IDN World Report, interviews/email exchanges with registry managers

[46] The twelve countries consist of thirteen registries as Egypt has two separate registries, one for .eg and one for .masr. These were both explored in this Study.

[47] This data will be used in sections 1.5 "Global market of registrars and resellers" and Task 1.6 "User experience of local registrars and resellers".

[48] Hereafter referred to as IDN.

To understand the role of the registries in Middle East, first it is important to examine what kind of organisation they identify as and how long they have been in existence. All thirteen registries surveyed provided a description of themselves in an "about us" section and IANA's website provided information on the top-level national domain administrator. For eight of the registries surveyed, the top-level national domain administrator of the ccTLD also acted as the registry operator. In five[49] cases however, the top-level national domain administrator and the registry operator are different.

The registries surveyed in this Study belong to three sectors, public, private or academic. Of the surveyed registries, the five who had different administering and operating organisations were entirely in the academic and public sectors. For private registries, the administering and operating organisation were one entity. In the case of the .af ccTLD, the top-level national domain administrator and registry operator are both governmental organisations, Afghanistan Network Information Centre (AFGNIC) is the operator and a department under the TLD Administrator, ICT Directorate, Ministry of Communications and Information Technology.[50] The .qa, .ae and .sa ccTLD's also have governmental bodies as their top-level national domain administrator and as Registry Operator. In the case of .ae, aeDA the operator is a department of the Telecommunications Regulatory Authority, UAE and in Qatar the Qatar Domains Registry[51] (operator) is a department of the Communications Regulatory Authority. The .sa domain name's administrator is a governmental organisation, the Communications and Information Technology Commission (CITC), and SaudiNIC, the registry operator, is a public body, with statutory corporation, part of CITC.

The public sector is the most represented in the registries of the MEAC region. Of those registries that are operated and administered by one single organisation, three of these identified as a "public" sector, having received funding from governmental institutions in some cases[52], in addition to the four[53] listed above. Additionally, three identified as Academic Institutions[54] and only one as a "Private" organisation[55].

The additional, surveyed registry is the one for .masr, as Egypt has two different registries. One registry operates the .eg domain name while the other looks after the .masr IDN equivalent. This is the only case in the region where a country has two registries, each delegated to handling a single TLD. The .masr ccTLD is operated by the National Telecommunications Regulatory Authority a governmental organisation,while the .eg ccTLD is administered and operated by the Egyptian Universities Network. The .ir domain is administered by the Institute for Research in Fundamental Sciences and operated by IPM / IRNIC, both academic institutions. None of these registries are operated or administered by a private organisation.

[49] .ae, .af, .masr, .ir and .qa
[50] http://nic.af/en/page/what-we-do/afgnic
[51] https://www.domains.qa/en
[52] .tn and .jo. For .ma, the registry is the National Agency of Telecommunications Regulation (ANRT) which is the public body responsible for the control and regulation of the telecommunications sector. However, the ccTLD ANRT does not receive funding from governmental institutions to manage the .ma..
[53] .af, .ae, .qa and .masr
[54] Egypt (.eg), Lebanon (.lb), Turkey (.tr)
[55] Pakistan

With regards to the timeframe, nine of the thirteen organisations emerged during the 1990's, between 1991 and 1996 specifically. Subsequent registries were created between 2003 and 2010. As a note with regards to the two Egyptian TLD's, the .eg has been in existence since 1991, while the .masr IDN equivalent registry was set up in 2010 following the delegation of the .masr as one of the very first IDN ccTLDs that have been processed within the ICANN IDN ccTLD Fast Track process.

Five registries in this Study underwent management transfers (formerly known as redelegations)[56]. Four registries underwent transfers in the first decade of the 2000's[57], while one – the .tn registry – was transferred in 1996. The delegation – transfer element could be considered crucial in the development of a registry. Most of the European TLDs, for instance, were delegated in the late eighties and experienced the registration uptake in the late nineties or the early years of the third millennium, meaning almost over a decade later. During the first ten years, they all struggled with various policy and procedure matters to make the registry operations more functional and/or to find the best channels to promote the local extension. In the case of the registries of the examined area we could also see that some delegations and/or transfers have faced difficulties. In this case, the registry had – or still has – to cope with internal stakeholder issues that might be also one of the causes of their low registration volumes so far.

Overall, very few of the investigated registries were transferred despite the shift in the region's political landscape. Of the thirteen registries studied, five[58] were transferred. It is also worth noting that the .tn registry was transferred only once, in 1996. However, it did go through a heavy restructuring phase in 2011 following the Arab Spring to counter the adverse conditions imposed under the Ben Ali regime. While not a full transfer, this restructuring in 2011 is interesting to mention as it highlights the shift in registry behaviour that is brought by political changes. The .qa transfer was an uncontentious event because, as outlined below, all parties, including the previous manager, agreed to the transition. The .af transfer on the other hand, explored in the subsequent paragraph, faced a series of difficulties due to the situation on the ground during the late 1990's and early 2000.

The .af ccTLD registry was first delegated by the IANA in October 1997. By arrangement with IANA, NetNames agreed to perform the technical functions and to provide a free registration service for .af on a temporary basis, until a stable registry operation could be established within Afghanistan. In the late 1990s, the ongoing civil war in Afghanistan made the on-site acting administrative contact's role increasingly difficult. In light of the situation inside Afghanistan, NetNames, in consultation with IANA, halted the registration of new domain names in the .af registry, while agreeing to continue to make name server updates and to provide DNS resolution for the .af zone. By early 2000, however, it had become impossible for NetNames or IANA to contact the on-site administrative contact person. Thus, in 2001, with the approval of the Afghan Interim Authority, the UNDP assumed the administration of the .af registry. At that point in time, there was a near-total absence of a local Internet community within Afghanistan: only a few Internet links had been established in Kabul by international

[56] .af, .ae, .ma, .qa and .tn
[57] .af (2003), .ma (2006), .ae (2008) and .qa (2010)
[58] .ma, .af and .qa

organisations and NGOs. The UNDP agreed that its role would be to restore DNS service, to build technical and administrative capacity within Afghanistan, and to shift technical operations to a community-based management structure inclusive of multiple sectors within Afghanistan when feasible and appropriate.[59]

The .qa ccTLD was transferred to the Supreme Council of Information and Communication Technology. The .qa top-level domain was initially delegated in 2006 to Qatar Telecom ("Q-Tel"). The Supreme Council of Information and Communication Technology, the current operator, was created by governmental decree in 2004 to "regulate the two sectors of Communication and Information Technology, and the creation of an advanced Information Community by preparing a suitable environment of infrastructure and a community capable of using communication and information technologies." The Electronic Commerce and Transactions Law No 16 of 2010 was decreed on 19 August 2010, and gives explicit responsibility for Qatar's country code Top-Level Domains to the proposed sponsoring organisation, reading "the Supreme Council alone is responsible for the management of top-level domains for the State of Qatar on the Internet, and has the authority to delegate this responsibility." The request was deemed uncontested, as the current top-level national domain administrator Qatar Telecom consented to the transfer.[60]

The .tn registry was transferred to the ATI in 1996 and adopted the direct registration model, whereby the registry offers services directly to the registrant without intermediate registrars. Further changes to the ATI and the .tn domain names did take place following the 2011 Arab Spring movement, however no further transfer occurred. The ATI was founded in 1996 with the principle goal of promoting and developing Internet in Tunisia. However, during its first decade, the ATI operated under the overview of the Ben Ali regime. The regime interfered in the execution of the principle functions of the ATI as an Internet information hub, IP manager and national domain name manager. Following the 2011 Arab Spring the ATI was able to reposition itself as the leading actor of the Tunisian Internet scene and pursued liberalisation and expansion projects[61]. The events of the 2011 Arab Spring movement caused realignment in the company's internal policies and external relations, underlining that political events influence registry operations.

The .ma transfer was also a contentious case as issues of transparency, mismanagement and lack of neutrality, amongst others, were expressed in the submissions to the 2005 online consultation on the management of the .ma domain conducted by the ANRT. Furthermore, the proposed organisation to receive the transfer (ANRT – the current registry) faced concerns from IANA, "that the community outreach that the request for private sector led management did not align with the nature of the re-delegation request".[62] However, following the 2005 online consultation and a subsequent Internet conference to address the issues of community outreach, the ANRT in 2006, lodged a transfer request with IANA. It sought the delegation of .ma to be transferred to ANRT. IANA received a letter from the Moroccan Minister of Economic

[59] https://www.iana.org/reports/2003/af-report-08jan2003.html
[60] http://www.iana.org/reports/2010/qa-report-12oct2010.html
[61] http://www.ati.tn/fr/qui-sommes-nous
[62] https://www.iana.org/reports/2006/ma-report-24jul2006.html

and General Affairs approving the transfer of .ma. The Administrative and Technical Contact of the registry at the time assented to the transfer to ANRT, commenting that "ANRT recognises that the Internet naming system is a public resource in the sense that its functions must be administered in the public or common interest".[63]

In response to the initial request and supporting documents, IANA enquired about the transition plan for moving operations as well as requested further information on the 2005 community consultation project. ANRT responded by providing specific details on the consultation and the responses they received. IANA's analysis of the community sentiment to the .ma noted that there was a weight of opinion that sought to have its operation vested in a not-for-profit organisation. IANA expressed concern to ANRT that the community outreach that the request for private sector led management did not align with the nature of the transfer request. The ANRT responded by saying that the government was being proactive to the underlying management concerns, and will ultimately transition to private sector management. Finally, in July 2006 the ICANN Board of Directors considered the request, and authorised the President of ICANN to move forward with the delegation of the .ma top-level domain to ANRT.[64]

The transfer of the .ae domain name, while not contentious, experienced certain obstacles. The previous operator, Etisalat, through its division the UAE Network Information Center (UAEnic) expressed its support of transferring the ccTLD to the UAE Telecommunications Regulatory Authority. However, upon closer examination of the .ae request for transfer, IANA found a lack of documentation describing either local Internet community sentiment or consultations of UAE's Internet community. This lack of community input was addressed by the UAE Telecommunications Regulatory Authority which stated, "As the Internet community in the UAE is undeveloped it is difficult to canvass Internet users with any authority or outcome."[65] Few ISP's, lack of an ISOC chapter, no organised public interest groups and an estimated Internet use of only 31%[66] of the population made communication with the Internet community all but impossible. Since the transfer, Internet use and penetration in the UAE has grown exponentially to 75% in 2009 to over 90% in 2014.[67]

In total eight of the surveyed registries – including Egypt – offer an IDN version of their Latin script ccTLD. The IDN equivalent is in the majority of cases offered in Arabic script[68]. Of the countries studied, only Turkey allows ccTLD IDN registrations in Latin script. This is because the Turkish language contains six additional characters which do not exist in ASCII (Latin) character set however, these characters can easily be represented by their substitutes[69]. Thus, although Turkish encoded domain names registered through the Turkish registry's system contain Turkish characters in browsers, the name servers still use a special ASCII representation of them.[70] The most recent addition to the IDN ccTLDs is .المغرب from Morocco.

[63] https://www.iana.org/reports/2006/ma-report-24jul2006.html
[64] https://www.iana.org/reports/2006/ma-report-24jul2006.html
[65] https://www.iana.org/reports/2008/ae-report-23jan2008.html
[66] https://opennet.net/research/profiles/uae
[67] http://data.worldbank.org/indicator/IT.NET.USER.P2
[68] Literary Arabic, common to all Arabic speaking nations
[69] ç->c ğŸ->g ı->i ö->o ş->s ü->u
[70] See Turkey Registry Factsheet for full details and additional links

This is under construction, and while advertised on the website they cannot as of the writing of this report be obtained.

Registry fee

With regards to the fee each registry asks, it is difficult to provide an overview as the fees differ greatly both between the registries and within the registries themselves. These differences can be seen in the Jordanian and Iranian registries as examples. The .ir registry charges 160 000 Iranian Rials (EUR 20) for a one (1) year registration through a foreign reseller (second level registrations). A pre-payment model[71] for .ir is available to foreign resellers where discounts ranging from 25% to 75% can be granted based on registration volume and the amount deposited to the registry. The .pk registry charges all registrars the same price as registrants for domain names; however registrars buying in bulk receive a 20% discount on the TLD purchase. In comparison, the .jo registry has a fixed fee of 100 JD for a second level domain and 50 JD for a third level. Furthermore, these registries often list the domain names in the local currency, yet prices for foreign buyers are listed either in Euros or U.S. Dollars depending on the registry. Some registries, such as those of the .sa and .lb domain names, offer the domains with no registration fee. Thus, market prices are set by resellers and the services offered with the domain name.

Registration model

As shown by the fee variations, there is no set registration system common to the region. There exists a mix of both the *Registry-Registrar-Registrant* models as well as the *Direct Registration* model. Five of the registries work with the linear *Registry-Registrar-Registrant* model[72], five use the *mixed* model[73] and three the *direct registration*[74] model. Of the users of the mixed model, allowing registration through both registrars and directly with the registry, Iran has developed an institutionalised practice of registrants registering directly to the registry while using registrars as intermediaries. This effectively makes registrars the representatives of registrants to the registry, yet allows ultimately the registry to manage the domain name registration process. As an additional note, the Pakistani registry is slowly shifting away from the *direct registration* model. Announced on 14 August 2015, the PKNIC Channel Partner programme is a restructuring of the current registrar and direct registration system. PKNIC has created a tiered system with an annual fee and application fee to become a registrar. This will afford accredited registrars additional benefits (co-funding, cobranding, presence on website).

[71] Prepayment as described in .ir's Foreign Reseller Agreement, "A bulk pre-purchase by a foreign reseller means an initial non-refundable deposit by the foreign reseller with IRNIC" (http://www.nic.ir/applications/Foreign_Reseller_Agreement.pdf)
[72] .qa, .tn, .ae, .ma, .masr,
[73] .af, .eg, .tr, .pk and .ir
[74] .jo, .sa, .lb

For those using the *Registry-Registrar-Registrant* model, there are several criteria for becoming an accredited registrar, depending on the registry and the country of origin of the registrar. Overall, there is a strong focus on the local market by those using accredited registrars. The Turkish and Moroccan TLD registries will only allow local entities to become accredited registrars. Should a foreign registrar wish to offer their domain name extension, these would have to operate through a local third party such as a law firm or an IP company. In the case of the Iranian registry, with 58 accredited registrars, only 8 of those are international while the rest are local. Thus, the emphasis of these registrars is generally focused on their local markets. The registries overall, such as those for the .pk, .qa and .ae, do focus on the international market as well, but to lesser extent.

Overall, the primary observation that can be made regarding the different registration models is that registries using the *mixed* model had the highest registration rates. The current registrations for .tr stand at 367,513 registrations, while the .ir and .pk stand at 675,356 and nearing 100,000 respectively. These three stand as the leading registries in terms of number of domain names registered in the MEAC region. For the other two registries using the *mixed* model, .eg has registered 8264 domains, while there were 6529 domain names registered under .af at the end of August 2015[75]. Second, based on the available registration numbers, we can note that those organisations using uniquely the *registry-registrar-registrant* model have higher registration rates than those using the *direct* registration model.

The requirement of local presence to become an accredited registrar might be one obstacle to a higher registration uptake. The European TLDs best practices have shown that European markets have benefited considerably from the entry of international registrars both from the perspective of the price to the end-user and from the stimulus on local registrars to become more competitive and offer extra – and eventually more advanced – services to the existing and new customers.

The accreditation process varies, thus establishing a pattern is impossible. However, those registries which do offer the option to become an accredited registrar do so in a visible way on their website. Thus, it can be stated that those registries which rely on the registrars for resale do make their services accessible. With regards to those who use the *direct registration* model there is the common factor that each website acts as the registration platform, as is the case with the .pk, .sa .jo and .lb registries. These registries often require that each domain name registration be accompanied with legal, notarised documentation of the purchaser. Domain names will be activated only upon the reception and verification of these documents. According to one of the largest worldwide registrars, for the .sa this can vary from 14 to 30 days following the initial purchase.[76] However, the .sa ccTLD clarified that the domains are activated promptly once the registry has received "valid (online) registration forms and supporting documents".

Until recently, certain European TLDs have been asking documentation to be submitted for registering a domain name (the most famous one being requested was the so called "letter of assumption of responsibility" by the .it registry, a document that each registrant had to fax to the

[75] Source: Muhammad Aslam, .af registry.
[76] See "Interview with Janelle McAlister"

registry as first step in the registration process. This requirement was abolished in 2007). While it is understandable that the registry wishes to receive specific documents as a guarantee of the identity and even bona fides of the applicant, most of the worldwide registries have agreed that the entire registration system should be based on a "circle of trust" model and therefore, possible checks should be made afterwards rather than in advance. This not only speeds up the registration of the domain name, but also contributes to the marketing of the domain name. Indeed, it can be observed that the registration times of a domain name under the extensions that require documentation is longer than for those with (near) real-time registration systems.

Registry services

Additionally, the services provided by the registries were examined. These services include DNSSEC, WHOIS database and languages offered. With regards to DNSSEC, only three registries displayed publicly being DNSSEC enabled: .af, .lb and .tn while the Turkish .tr registry is currently working on implementing it though at the moment it is unavailable. The other ten registries either are not DNSSEC-enabled, or have no information available on whether they use it. It is interesting to note that in the experience of one registrar who functions heavily in MEAC region their security concerns and client requests are more focused on Registry Lock services, as opposed to the security concerns DNSSEC addresses, as their primary security tool.[77]

Globally, it can be observed that all thirteen registries have their official policies and procedures publicly available on their websites. Furthermore, eleven registries offer WHOIS lookup services, while the .eg registry offers an "availability checker"[78]. Only the .pk registry, PKNIC, does not offer WHOIS services. They do offer verification services directly through their website through a specific channel which verifies requests on a case by case basis. However, PKNIC has stated security concerns, physical as much as web related, are the reason that they prefer not to offer a WHOIS public database. Thus, they handle enquiries into domain name holders on a personal basis in order to assess the possible risks revealing the information may entail. Their website does also offer an anonymous domain name availability service to potential clients.

The languages offered by the registries reflect the countries in which they function and the audiences they target. The majority, seven registries' websites, offer both their local language and at least one other language[79]. The .masr registry only offered their terms, conditions and services pages in Arabic while the Moroccan registry website is only in French. The .pk and .lb websites operate in English only, while the .tn registry offers their site in French, English and Arabic[80]. It is clear that an influential regional language is Arabic (literary/written form) for

[77] "Interview with Janelle McAlister"
[78] See page 10
[79] .ir = Persian, .tr = Turkist, .af = Pashto, Dari, and Arabic as a vast majority
[80] Under construction currently, few links are functional.

communication used by seven registrars[81]. Yet it can be observed that English serves as the common language to all the examined registries in the region. Eleven[82] of the thirteen registries have their website in English and offer information in the English language. It is good to highlight that nine of these sites are fully functional in English, offering all services in the local language and English. The .eg website offers the policies and key information in English. However, the domain registration process is available only in Arabic. The .tn website is currently developing their English page.

Registry promotional activities

Finally, the study of the national registries focused on the promotional and marketing programmes designed to reach out to registrars and registrants. Eight registries either do not offer promotional tools nor have any visible marketing promotions offered on their websites. PKNIC has launched their Channel Partner programme which offers to registrars who become accredited additional benefits. However, they have no marketing programmes for registrants as of this Study. The Turkish registry, .tr, also offers promotions to registrars, including discounts based on portfolio size. However, the registry expects that registrars take care of all marketing and thus have no marketing aimed at end-users. The .masr domain is currently in a unique situation and all marketing activities and promotions are currently suspended[83] due to political circumstances in Egypt[84].

The .ae registry is the only registry in this Study whose website outlines promotional activities for both registrars and registrants. Registrars are contacted regularly and asked to provide feedback on their experience with the registry. The registry seeks to learn what services can be ameliorated as well as how customer satisfaction can be increased. In order to reach registrants, the registry employs social media, such as a Twitter campaign using the #yes2ae platform as well as promoting successful .ae websites and their users.

Over the past decade, worldwide registry best practices witnessed a move towards more activities to support their extension directly and/or in partnership with local and/or international registrars. While those registries who dared more in terms of marketing actions have made good progress for their registration volumes, those who gained the most seem to be those who have established strong partnerships with their accredited registrars.

Registry policies for registrants

[81] .ae, .eg, .masr, .jo, .qa, .tn, .sa
[82] All but the Moroccan .ma registry and .masr registries offered English on their websites.
[83] http://www.eurid.eu/files/publ/IDNWorldReport2014_Interactive.pdf.
[84] See country factsheet on Egypt for further details.

Of the registries studied in the MEAC region, six registries have no special domain name restrictions, only to respect the local laws in effect.[85] Seven registries[86] do have domain name registration restrictions, including stringent eligibility criteria requiring that a prospective end user be either a national or a resident of their respective country. Each website outlines in their policies on their website whom is eligible to register a domain name. As previously stated, registries which hold domain name requirements often require legal documentation to prove that the requestor fits the criteria.

A number of registries in the region which have deregulated their registration processes have implemented alternative dispute resolution (ADR) mechanisms for contentious domain name registrations. The World Intellectual Property Organisation (a self-funding agency of the United Nations) provides dispute resolution for several ccTLDs in the region including .ae, .ma, .qa and .tn[87]. All decisions are published, and reveal a low number of annual cases (for example, one of the largest ccTLDs in the region .ae had five cases in 2014, and two as of this Study in 2015). The region also has its own provider, the Arab Center for Dispute Resolution, which administers UDRP cases[88]. The availability of the alternative dispute resolution process supports the establishment of a circle of trust at the registrant level. Furthermore, when the ADR is managed by an external body, which is independent from the registry operator, this is a further element that enhances the registry accountability towards the local community.

Sources

The above paragraphs provide an overview of the findings of the registry research conducted by the team. Focusing on twelve countries, representing thirteen registries, from the MEAC region, this information was gathered through websites, public domain information repositories, direct contacts with registry representatives and interviews with relevant parties. This overview presents in a broad way the data included in the factsheets below and will be used, along with the factsheets, in the analysis and conclusions sections.

[85] .ir, .ae, .masr, .pk, .ma, .qa. Please note that for .ma the registrant can reside out of Morocco, but the Admin contact must be established in Morocco.
[86] .af, .eg, .lb, .sa, .tn, .jo, .tr
[87] See http://www.wipo.int/amc/en/domains/cctld/
[88] http://acdr.aipmas.org/default.aspx

Global Registrar and Resellers

Introduction

The second part of our analysis of the domain name market in the MEAC region considers the perspective of global registrars and resellers. Members of the EURid team contacted the top thirty .eu registrars[89] with four questions in mind:

1. Is the TLD available through your sales network[90]?
2. If so, what is the price of registration and are there any specific conditions?
3. Are there any promotions available?
4. Provide feedback regarding domain name registration process experience and interaction with regional entities (registries/registrants).

These registrars were selected due to their long-term presence in the international domain name market, and their wide offer of TLDs. Their experience provides a unique position from which to view the MEAC DNS market. Ten of the registrars surveyed are based outside of Europe[91] while the other twenty are based inside Europe. This aspect is important to outline as this means the companies function within a different legal framework. Furthermore the registries work with a diverse clientele from several countries, from large corporations to individual registrants. This sampling of registrars allows the Study to account for both legal and practical differences that act on the registration process. The findings of the international registrars' investigation are essential to understand the availability of MEAC domains on the global market.

In addition to providing concrete statistical information, registrars also shared their views on the MEAC DNS market and their experience in it. Further insights were provided in an interview with Ms. Janelle McAlister, Manager, Global Relationships at MarkMonitor. The questions to the registrars focused on the following nineteen ccTLDs:

[89] See ANNEX II
[90] See list below
[91] Outside of the EU and EEA states

Country	ccTLD	IDN ccTLD
United Arab Emirates	.ae	.امارات
Afghanistan	.af	
Egypt	.eg	.مصر
Iran	.ir	.ایران
Jordan	.jo	.الاردن
Lebanon	.lb	
Morocco	.ma	.المغرب
Pakistan	.pk	.پاکستان
Qatar	.qa	.قطر
Saudi Arabia	.sa	.السعودية
Tunisia	.tn	.تونس
Turkey	.tr	

Table 7

Overview

Local or international registrars

Based on the results obtained in the surveys, the domain name market for the Middle East and Adjoining countries is locally focused with a shift towards international market currently happening. Of thirty registrars, thirteen offered MEAC region domain name extensions, however none offered all of them. The remaining 17 registrars did not offer any of the domain names. Furthermore, of the thirteen registrars who offer some of these ccTLDs, only three offered the IDN TLD equivalent[92]. However, it is interesting to note that of the 17 non-MEAC retailing registrars, several are in active negotiations to establish a presence in the region and become registrars. Moreover, three of the 10 MEAC retailers who do not offer IDNs are planning to offer IDN variants in the near future.

Thus, while most of the MEAC TLDs have been available since the early 1990's[93], external growth has not been a high priority. According to one of the surveyed registrars, none of the MEAC registries operates with any commercial focus, with the exception of four[94]. Little to no promotional activity takes place and thus they do not encourage growth in their zone.[95] This observation is supported by the fact that of the thirty registrars surveyed, very few had benefitted from or were offering promotions on MEAC domain names. For those who do offer promotions, such as OVH, the price of the domain name is lowered and combined with other services from the registrar such as web hosting, DNS management, etc… Whereas other registrars such as Corporation Services Company, a large registrar with several resellers,

[92] Corporation Service Company, MarkMonitor International Limited, Instra Corporation Pty Ltd,
[93] See Registry Survey Overview
[94] .AE, .AF, .PK and .QA
[95] Comment from Tucows.com Inc.

offered promotions based on individual reseller tactics. However, these were initiatives launched by registrars as opposed to those launched by the registries.

Globally speaking no registrar mentioned benefitting from a promotional offer from the registries of the region. Further highlighting this are the findings in the registry surveys, which showed that only in a few select cases did registries partake in promotions.[96] In the case where promotions were available, these often came in the form of percentage reductions of bulk purchases for registrars, in no case were registrants targeted for promotions for a certain domain name. Further insight into the market can be obtained by looking at the figures of accredited registrars in the region where local registrars are more numerous than international registrars[97] for several reasons. Thus, in the MEAC region, it does seem that registries still focus inwards rather than towards outwards expansion.

Political matters

As mentioned above, our Study to understand the global presence of MEAC domain names looked into both EU and non-EU registrars[98], which served to highlight some legal questions that affect the international market. The political situation in several of the MEAC countries is delicate. The Egyptian registries[99] listed political concerns as their reason for suspending any promotional or outreach activities, while The Islamic Republic of Iran is currently undergoing a warming of relations with the West[100]. However, the .ir name is, as of the writing of this Study, still banned from retail by all organisations based in the USA due to Office of Foreign Assets Control sanctions[101], as well as being banned in the UK according to UK based registrars. Several of the largest registrars based in the US are unable to offer many of these domain names due to a mix of trade restrictions and accessibility issues.

The political landscape has contributed to the formation of several registries. For example, the .af registry underwent a re-delegation in 2003 when its on-site administrative contact disappeared. Further tension caused by conflict in the region led to the UNDP taking over management of the registry[102]. The .pk registry meanwhile has listed ongoing security concerns as the reason why they do not publicly publish the WHOIS database. While they want to maintain a transparent system, there are concerns that the database can be abused and the information used to harmful ends. Thus, PKNIC runs a specialised information programme, where one must specifically request and justify the request to obtain information on a registrant.

[96] See Registry Survey Overview
[97] See Registry Survey Overview
[98] Australia, USA and The Bahamas
[99] For .eg and .masr
[100] http://edition.cnn.com/2015/08/23/world/iran-uk-embassy-reopening/
[101] https://sdnsearch.ofac.treas.gov/
[102] For full details see Registry Overview

The North African sector of the MEAC region experienced turmoil in 2011 with the Arab Spring. This led to the restructuring of Internet laws as oppressive regimes were ushered out. The notable example of this change comes in the form of the ATI, the .tn registry, who underwent several liberalisation policies and reforms, which had been hindered under the rule of the Ben Ali regime. However, the .tn domain name was not transferred following the Arab Spring. On the other hand, Morocco experienced a transfer in 2006 as several issues with .ma management were raised by the ANRT (the current registry). However, in the 2011 Arab Spring, the .ma registry did not experience a further transfer, nor did the country experience a change in leadership.

Accessibility of the registry and their registration system

Several of the largest European registrars, including those who are providing brand protection services to their top customers, also have no presence in the region as a number have listed a lack of client interest in the region as well as the difficulty of accessibility. The issue of accessibility was brought up by all the registrars operating in or interested in the region, independent of any legal issues, especially the need for an API. As Ms. McAlister from MarkMonitor mentioned, API's or an EPP platform are important to meet the needs of clients, especially domain name security and speed of modifications for registered domain names.[103]

At the moment one of the largest impediments to rapid registration and simple domain management is the fact that many of the registries function via a manual registration system, even if they use a *registry-registrar-registrant* model, as opposed to the *direct registration* model. This makes changes to domain names cumbersome as these registries are not fully equipped to meet the industries rapid demands. As United Domains AG, a German registrar, indicated, "A real-time API is necessary for us to provide the best service to our customers and potential domain name registrants. This includes that all transactions should be doable through the API." This doesn't necessarily mean adopting an EPP platform. Rather, registrars indicated that any API[104] would prove to be an improvement over the current manual system.

However, with regards to accessibility, the legal requirements of the registries must also be considered as they affect the penetration of the ccTLD's in the global market. For example in certain countries, as shown in our registry overview section, only local entities can become accredited registrars. This forces foreign retailers to operate through a third party such as a law firm or IP company. Many have chosen not to go through this process and so these ccTLDs, notably Morocco, and Jordan, are hardly offered by the international registrars and are available through special request only. In the case of Morocco, two French registrars who are established on the ground do offer to resell the .ma domain name.

[103] Interview with Janelle McAlister
[104] REST, SOAP, XML

Further legal issues are the result of several requirements from registries, including registries who request notarised legal documents to prove the identity of the person purchasing the domain name. MarkMonitor has listed some specifications to the MEAC market as being the long waiting time for domain name activation as well as legal documentation requirements which go beyond a simple online purchase[105]. With the processing of the documents, the wait time from purchase to activation can be anywhere from 14 to 31 days.[106] This complicated registration process, combined with the manual registration system, is the reason listed by many of the registrars for the hesitance to offer these domain names. A proposed solution to this issue has been to remove all documentary proof of the domain name purchaser, or in the case that the evidence be required that an online system be set up to receive any necessary information, such as a VAT number. Registrars feel this would greatly speed up the registration process.

Domain name fee

Another aspect which the registrars with a presence in the region mentioned when sharing their prices for the TLDs is the fact that some are "unreasonably" priced. Janelle McAlister, MarkMonitor, said that many of the registries charge registrars relatively high fees for domain name purchases, sometimes well over 100 USD per domain name. This results in high prices for the end-users, in some cases over 200 USD which dissuades their particular clients[107] from registering more than the necessary domain names. Several registrars saw the proposed fees for certain TLDs as unreasonably high, with some costing over 455 USD for a 1 year term. However, it is important to remember that the prices vary between registrars and even between their own resellers and many of the TLDs are more in the range of 35-55 USD.[108] Furthermore, with regards to pricing, several registrars have mentioned discrepancies between purchase and renewal fee, finding either that the first-year fee was unreasonable or that there was no difference between renewal and purchase fee even if the fee is deemed "reasonable".

Overall, there is a noticeable difference between the prices advertised by the registries to their registrars and the prices the registrars charge the end-user. Some registries, such those operating the .ir and .ma ccTLD's charge relatively low prices, however the price charged to a foreign purchaser is relatively high. For example the .ma domain name is sold from 1-9 EUR per year, while the end-user will pay on average – when using a foreign registrar – 79 EUR per year of registration. This price increase comes from the difficulty in accessing the local market.

A foreign registrar will have to go through a middle-party to obtain the domain name, which in turn adds fees that impact the end-user. The registry for the .sa domain name has policies in place regarding the eligibility requirement and a registrant can register the domain name directly with SaudiNIC for free. However, the average domain name price from our Study stands at 223

[105] Interview with Janelle McAlister
[106] This is the opinion of one registrar. As mentioned above, SaudiNIC activates the .sa domain name immediately upon reception of the necessary valid documents.
[107] Clients interested in protecting a brand name
[108] See Annex IV

EUR per year of registration for the five international registrars who offer the .sa TLD. Of course, this is the average price charged by larger international registrars, and the prices do vary (according to SaudiNIC, the price with a local registrar is around 150 SAR). Of the registrars observed the prices ranged from 24 EUR to over 500 EUR per year of registration. It can be observed that in the region, a foreign end-user interested in acquiring a MEAC ccTLD domain name will pay more than a local end-user. A full average price list resulting from the registry/registrar survey can be found in Annex III.

It is interesting to note that of the thirteen registrars active in the region, the two who offer the most of the domain names are MarkMonitor Inc. and the Corporation Service Company. These two American entities' primary focus is on business clientele. MarkMonitor specialises in brand protection services, hence their desire to offer as many domain names as possible. Corporation Service Company meanwhile works with businesses and provides legal, financial and business services hence their interest in having as many options as their clients would need. The other eleven registrars are focused on individual registrants, and do not offer the same variety of domain names as their business-oriented counterparts. The lack of promotional activities towards registrants and accessibility issues for registrants results in overall higher prices for the MEAC regions ccTLD extensions.

Registrar market perception

In addition to legal obstacles and accessibility issues, one of the primary reasons several registrars listed for not supplying MEAC domain names, is a lack of interest from their clients. Registrars in Poland, the Czech Republic, the Bahamas and Germany all indicated that their current business has no demand for such domain names. It is interesting to note however that the Dutch registrars do offer a majority of the ccTLDs of the region with the exception of the IDN variants. Yet, they offer no promotional activities as there are less than 10 registrations for the domains per month, or they are not directly accredited with the registry, but offer domain names registrations as a reseller of an accredited registrar on client demand.

Certain registrars do want to develop a higher presence on the market and have negotiations ongoing in the region. While some countries still have political issues blocking commerce, others are quite open to foreign registrars. The .pk registry for example is in negotiation with one of the largest registrars surveyed who hopes to have the .pk domain name made available within a 24 month period. Additionally, some UK registrars have also expressed a desire to operate within the MEAC region. This illustrates that the choice of a registrar's primary market focus is influenced by the option of available ccTLD's. Thus, one aspect of the current global market that can be observed through this section of the Study is that, registrars, especially the large foreign registrars, do have a desire to further operate in the MEAC region and offer more domain names to their end-users. This entails facilitating access, modernising operations, modifying fees (when necessary) and finally increasing visibility for potential end-users.

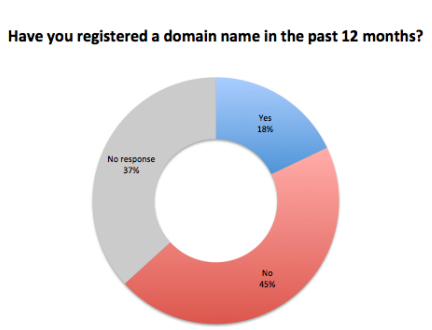
End-User (registrant) experiences of the domain name industry

The final part of our analysis of the MEAC domain name industry is the user experience. For this section, we rely on the results of our end-user survey. The section begins with user awareness of domain names and different TLDs, considers intent to purchase, feedback on the domain name registration experience, how providers were selected (local or foreign)

Domain name registration

Approximately half of respondents to our qualitative survey said that they knew what a domain name is (49%). By country, knowledge levels varied from 15% (Turkey) to 81% (Other, including Egypt and Gulf countries). More than 95% of those who responded to the supplemental survey said they knew what a domain name is.

Asked whether they had registered a domain name in the past 12 months, 18% of those who responded to the original survey (126 individuals) answered "yes", 45% answered "no" and 37% did not answer. However, more than that number went on to answer follow on questions (eg how many domain names they had registered). For some questions, the number of responses is greater than the number of individuals responding (eg what TLDs did you register in received 221 responses as some individuals specified more than one TLD). The remaining figures in this section exclude those who did not answer, and the size of the data sample is stated in the heading of each chart.



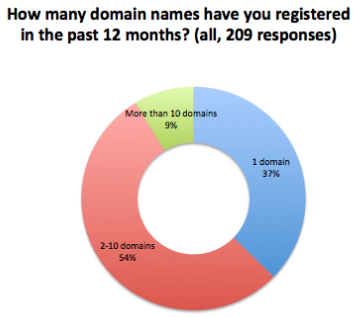


Figure 25 Domain name purchase (past 12 months) *Figure 25.1*

Of those who said that they had registered a domain name in the past 12 months (126 individuals out of 702 respondents), 54% (ie 67 individuals) had registered between 2-10 domains.

In the supplemental survey which had 57 responses, 50% said they had registered a domain name in the past 12 months. Again, the majority registered fewer than 10 domains.

Which TLDs?

When asked which TLDs they had registered in 58% answered ".com" and 25% their local ccTLD. A limited range of TLDs was revealed in the responses, with 9% mentioning domains other than .com, .net and the relevant ccTLD according to the country in which the respondent was based. Only one response mentioned registering an IDN ccTLD[109].

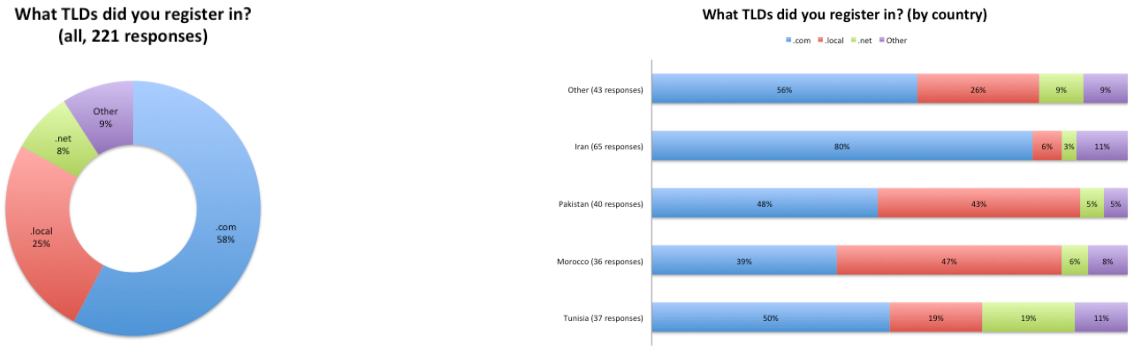


Figure 26 Which TLDs did users from the MEAC region register in? Figure 26.1

In the supplemental survey, 40% answered .com, 32% their local ccTLD, and three responses mentioned registering their local IDN ccTLD.

Intent to register domains?

Asked whether they intended to register a domain in the next 12 months, 38% of respondents in the original qualitative survey answered 'yes' (10% higher than for actual purchases).

User feedback on the domain registration experience

We asked users to rate their domain buying experience on four factors: ease of registration; understanding the choices available to them; finding a local provider; and how quickly they could use their domain name after buying it.

We asked users to rate their level of agreement (from strongly disagree (0) to strongly agree (5)) to the following four statements:

- I found it easy to register my domain name
- I understood what choices of domains were available to me
- I found it easy to locate a local provider
- Once my domain name was registered, I could use it immediately.

[109] Note that the number of responses to this question (by country) is greater than the number of people who responded, as some named several TLDs in their answer

Overall, the results indicate slightly more positive than negative domain purchasing experiences. The reaction to each of the statements was similar, with roughly equal portions of disagreement (24-31%), agreement (33-37%) and no strong opinion (37-39%).

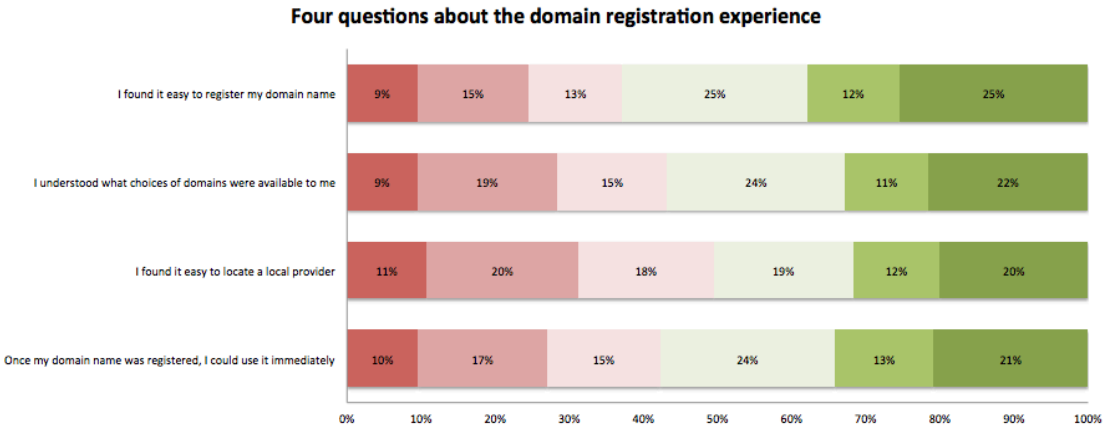


Figure 27 The domain name purchasing experience – a user's perspective

The most positive results were achieved for ease of domain name registration, and the most negative for finding a local provider.

Large variations were found between the countries. Here is an example:

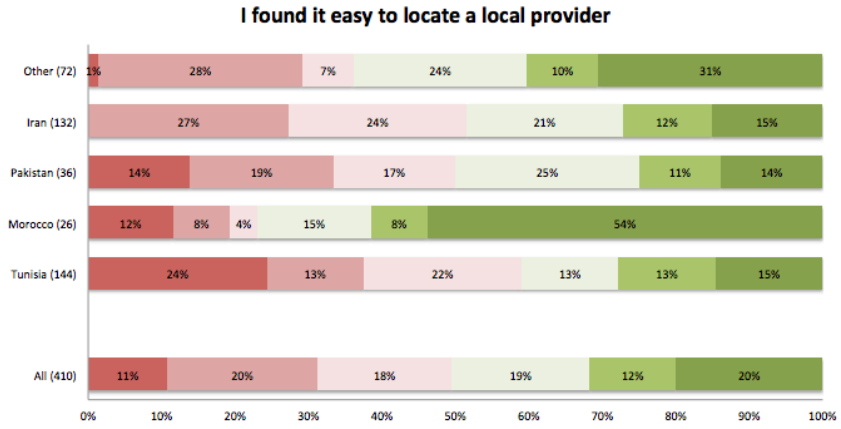


Figure 28 How easy did users find it to locate a local provider? (by country)

Morocco had the most positive results for each of the four questions, with more negative reactions seen in Tunisia and Pakistan[110]. However, conclusions are tentative given the low response numbers by country.

The supplemental survey had very positive results for all the questions in this section.

Choosing a registrar

Survey respondents were asked what factors influenced their choice of domain name registrar, and whether they would prefer to register domain names with a local or a foreign registrar.

The majority (59%) of users in our survey could not identify their domain registrar. This suggests an opportunity for local service providers to increase user awareness. Knowledge of providers was greater in the supplemental survey. Users identified SaudiNIC and PKNIC as their registrars, together with GoDaddy, 101domains, Diginatives and Web Souls amongst others.

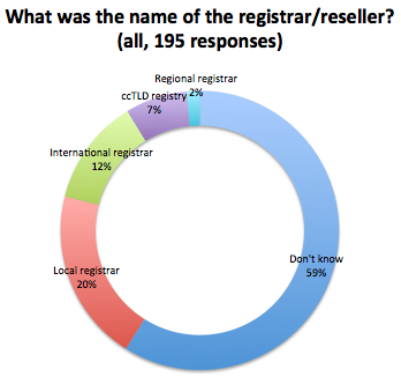


Figure 29 Can end-users name their registrar/reseller?

Where people could remember their provider, there was a preference for buying locally: 29% said that they had bought with local providers, whether registrars (eg Domain.pk, Maroc Telecom, Pamir Hosting, Ooredoo), ccTLD registries from the region (eg IRNIC, SaudiNic) or registrars who operate across the region (eg TAG). The large international registrars, so dominant in other regions, only accounted for 12% of responses.

[110] In the presentation of these results, responses from Afghanistan and Turkey are included within "Other", due to low response rates to these questions from those countries.

Value added services

Domain names are sometimes viewed as gateway products, being low margin, but acting as an entry point for customers to purchase more profitable services such as hosting, website design, or certificates.

72% of users in our original qualitative survey indicated that they did not purchase additional services when they bought their domain name.

Where users had purchased value add services, email services were the most commonly mentioned (9%), web design (6%) and hosting (7%). Results by individual country were broadly consistent.

The supplemental survey indicates a high level (70%) of users purchasing additional services including DNS, hosting, and email. However, limited weight is given, as the number of response was low to this question (33).

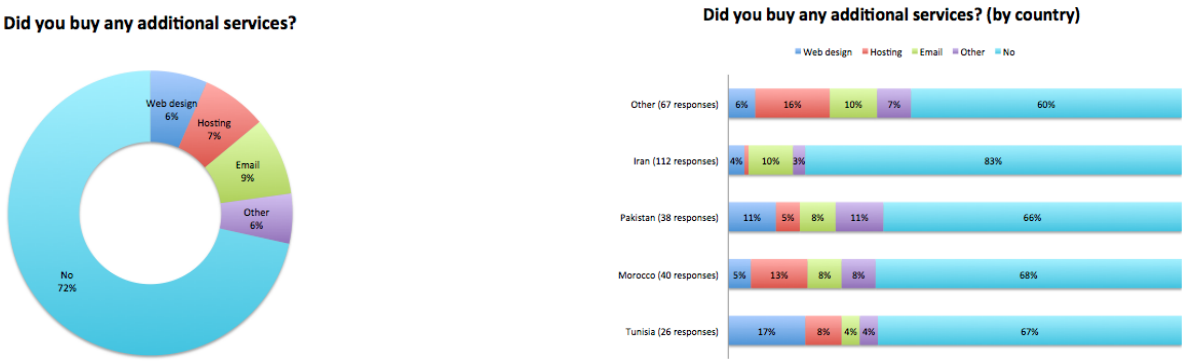


Figure 30 Did users buy value-add services from their domain registrar? Figure 30.1

The responses to this question in the original qualitative survey support the view that the wider ecosystem for Internet services in the region is weak. A domain name will not give a user a full Internet experience. Value added services are essential for users to get online.

Responses to the original qualitative survey suggest low user awareness of value add services, and opportunities for improvement. Perhaps users are not aware of the online packages they have in fact bought. Perhaps the sales interfaces of local providers have room for improvement. By analogy, 15 years ago in Europe, users who bought a domain name would have to ask for each additional value add element. Over time, European providers have made the buying process more streamlined and customer-oriented, so that users are immediately offered both the elements they need to get their domain name working fully (DNS, hosting, content management tools for websites, email, security tools, certificates) and even commercial packages that support the promotion of the website associated to the registered domain name once it becomes operational (e.g. offering Google AdWords vouchers).

What factors influence buying decisions?

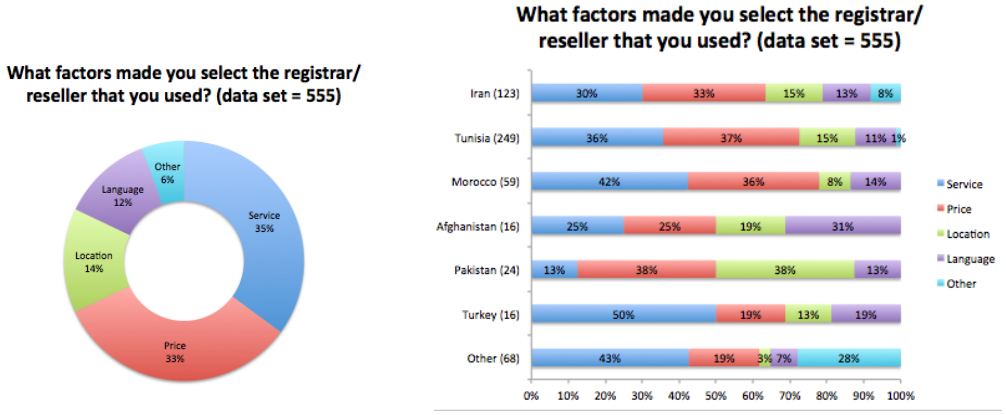


Figure 31 Factors that make users choose a registrar or reseller Figure 31.1

Overall, service and price were rated most highly by users both in the original and supplemental surveys.

Users weigh multiple factors when choosing a registrar, according to the qualitative survey, and hence the number of responses is larger than the number of individuals who answered this question. For example in Morocco individual users frequently ticked three or four factors each. Service was rated the most important factor in Turkey (50%), and price most important in Pakistan (38%). Reactions having the provider located close to the customer's place of work/residence varied the most, with Other countries rating it least important (3%) and Pakistan most important (38%). The ability of a registrar to speak the local languages was rated highest in Afghanistan (31%), and lowest in Other countries (7%). Users who answered "other" named factors such as reputation and reviews.

Users were asked to tick any that applied, so number of answers is not equal to the number of people responding.

Do users prefer to use local or foreign registrars?

Overall, users from the region in the qualitative survey said they prefer a local provider over a foreign provider when registering domain names. Those who took the qualitative survey were asked:

- Would you prefer to register a domain name with a local company?

- Would you prefer to register a domain name with a company based outside your country?

Overall, there was a preference for local domain registrars (36%, compared with 25% preferring foreign registrars).

By country, a higher percentage of users showed strong antipathy to the idea of a foreign domain name registrar (e.g. Tunisia, 48%). On the other hand, users from Pakistan and Iran were more likely to prefer foreign than local registrars. Users from Morocco and "Other" countries[111] were most likely to prefer local registrars.

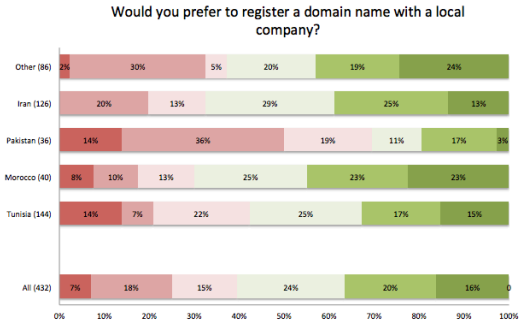


Figure 32 User preferences for local or foreign domain name registrars

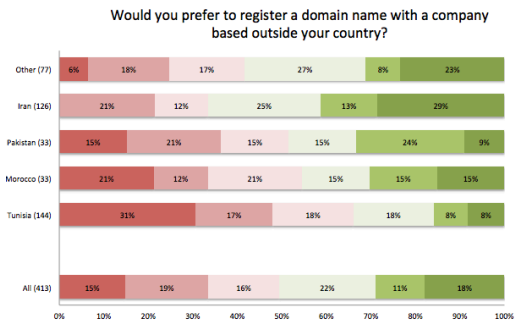


Figure 32.1

In short, the preference of users for either a domestic or a foreign provider varied across countries and reflected the inherently diverse nature of the region.

Summary – user views on domain registration

Based on our qualitative surveys, users are reasonably knowledgeable about domain names, but they tend to register in a limited number of TLDs. A minority (18% of the data sample in the original survey) had actually registered a domain name in the previous 12 months, but more said they intend to register domains in future. User experiences of domain registration were reasonably positive, but there is room for improvement. Users were divided on whether they preferred local registrars to foreign registrars, and some found it difficult to locate a local registrar. Based on answers to the qualitative survey, users weigh multiple factors when choosing a registrar, with service and price most likely to influence buying decisions. This supports findings in other world regions.

111 Other countries include Turkey and Afghanistan for this question, due to low number of responses.

Payment gateway

The Region

The region has seen a growth in domain name registration and Internet activity as a whole. An increasing amount of fiscal transactions occur online, amounting to 4.43 million online shoppers[112] in the Middle East alone, without accounting for the Turkish and North African markets. In order to keep pace with this growth, payment systems have had to evolve in order to accommodate the online traffic. This applies to the DNS industry as well and is reflected in the rise of registrations, and the diversity of where they come from.

This market growth has resulted in the development of two main sectors for payment services. First, the adoption of several different payment systems by registries and registrars, including online payment gateways, prepaid "card" systems and bank transfer/cheques. Secondly, the need to offer domain names in local currency as well as foreign currency. Many registrars examined in this Study offer pricing based on where they are geographically located, USD for American based companies and Euros for EU based enterprises. However, their registrants/clients are not necessarily from the same location and thus payment flexibility is required.

Transaction costs

Transaction costs are a principle factor in deciding which payment system to use. Some registrars do not sell to end users and all registrations go through a third party. So there are two layers of "margin" on top of the registry costs. This results in the end-user paying an elevated price per domain name, as each additional actor factors in a new profit margin. This issue is predominant for domain names which grant limited access to foreign registrars, such as the .ma registry with an average price for end-users of 79 EUR per year, while the registry price for the domain name is 1-9 EUR per year.[113] This is also seen in the .ir domain name. While .ir allows foreign resellers the price towards them is of 20 EUR per year while local registrars pay 4,8 EUR per year. This results in an average price of 106 EUR per year of registration for foreign registrants.[114]

Layers of profit margin are not however the only consideration when examining transaction costs of domain names. As mentioned above, not all registries and registrars use the same currency, which can result in end-users paying extra costs as their purchases encounter conversion fees or even foreign transaction payment fees. These costs of course vary depending on the country, bank, credit card and daily currency conversion rates. Thus,

[112] https://icann.adobeconnect.com/p3hw1umhlq9/?launcher=false&fcsContent=true&pbMode=normal
[113] See Price List in Annex
[114] See Price list in Annex

establishing an overview would prove to be difficult as it is a “moving target” so to speak. However, it is key to acknowledge that these factors exist in the region and that providing an affordable and uniform service to consumers will require mitigating these costs as much as possible.

The fees charged by different payment systems for their services also have an impact on transaction costs.. These payment tools tie into the margin and fees as the cost of their use must be accounted for in a registry/registrar’s operating costs. For example, PayPal charges users for receiving purchase payments is 3.4%, plus an additional 0.35 EUR per transaction, as of September 2015[115]. This price diminishes as the use increases, an inversely proportional relationship allowing larger resellers to benefit from a “Merchant Rate”[116]. Thus, the above factors of profit margin and purchasing costs all contribute to transaction fees which result in a higher price for a domain name in the region.

Payment tools

Price ranges of the registries and registrars vary depending on several aspects (size, number of names registered, amount of initial deposit, currencies used...) and there is a difference in currencies used. However, others sell directly to clients and have their own pricing and payment policies. The preferred payment method by registrants, revealed by top registrars, is by credit card. Other options such as direct wire transfers or cheques do remain popular. At the same time it is worth underlining that there are also a number of end-users who do not have a bank account or credit card.

This lack of bank information can render obtaining a domain name difficult. Nearly all registrars and registries require some form of bank for payment (cheque, wire transfer, credit/debit card). Few have a pre-paid system. PKNIC has a pre-paid card system where end-users can buy a prepaid card using cash. However, this certainly proves to be the exception to the rule. Another sector of prepaid transactions which has risen with e-commerce is payment through mobile phones. For youth, people with no bank account or no access to a credit card, mobile payment has grown as a way to obtain online goods. However, in the framework of the DNS industry, this option is no nearly as developed as with other e-commences. Registrars mention that there is not enough client interest to justify establishing a mobile payment option, while registries handle such large transactions that mobile payments would be impractical.

For those end-users and registries with bank access and credit lines, new technologies have also risen to help the payment procedure. Some registrars use Paypal, which has been a very recent payment addition. These new payment platforms remain focused on personal computing and fixed devices as mobile payment methods are deemed less relevant by DNS resellers. The need to recognise different currencies is also growing as large worldwide registrars, such as

[115] https://www.paypal.com/va/cgi-bin/webscr?cmd=_display-receiving-fees-outside
[116] https://www.paypal.com/va/cgi-bin/webscr?cmd=_fees-rate-about-outside

Tucows.com's registrar OpenSRS, are seeking to accept bank transfers in the countries in which their resellers operate.

Some registries, such as PKNIC, offer their domain names primarily in US Dollars[117]. However, they do have the price in rupees available. Others such as the .ma ANRT offer their prices in Dirhams only, reflecting their preference to only have local registrars sell their domain names. This preference for local currencies only can be observed for all registries favouring local registrars, such as the Turkish registrars offering services only in Turkish Lira.

The above described evolution in payment tools does indicate that measures are being taken to cope with the above mentioned transaction fee issues and indicates recognition by the industry of the need for a standardisation, or at least a homogenisation, of payment practices. Nevertheless, the diversity of the region remains both a strong asset and challenge. The large market gives a strong customer base and attracts foreign investors as well. However, the diverse currencies, the various payment systems and their different development, as well as the diversity in preferences for fiscal transactions make difficult to identify a "one-size-fits-all" approach to pricing and payment. Yet, as e-commerce grows, establishing platforms able to handle the demand and minimising transaction fees and margin layers would serve to strongly support and further enhance the region's DNS economy.

[117] http://www.pknic.net.pk/pricing.html

Premium domain names

Premium domain names are domains that have already been registered by someone else but are now being resold for a premium rate. This means anyone can buy premium domains as they are being sold on the open market.

In conjunction with the standard registration platforms for domain names, many registrars (e.g. GoDaddy) and registries are developing interfaces where they highlight already registered domain names that can be purchased in the secondary market. In addition, there are worldwide companies – Sedo being the most known – that have become leaders in this special business.

Prices vary considerably, mainly depending on the domain name appeal, its length, popularity and link with common words. If we look at some data back in 2011, we see that PersonalLoans.com was sold for $1 million. BowlingBalls.com, Lov.com and Kboing.com changed hands for $225,000, $160,000 and $150,000, respectively. Some other interesting deals (not based on size) include for Airline.com ($125,000), Let.com ($100,000) and DIY.org ($60,000). As we can notice, all the auctioned domain names were under the .com extension. That is both because of historical reasons and because the .com market has become quite saturated and therefore, the chances to be able to register a domain name are more limited.

The H1 2014 report from Sedo – see some infographics about it below – is showing the trends in the domain name premium market.

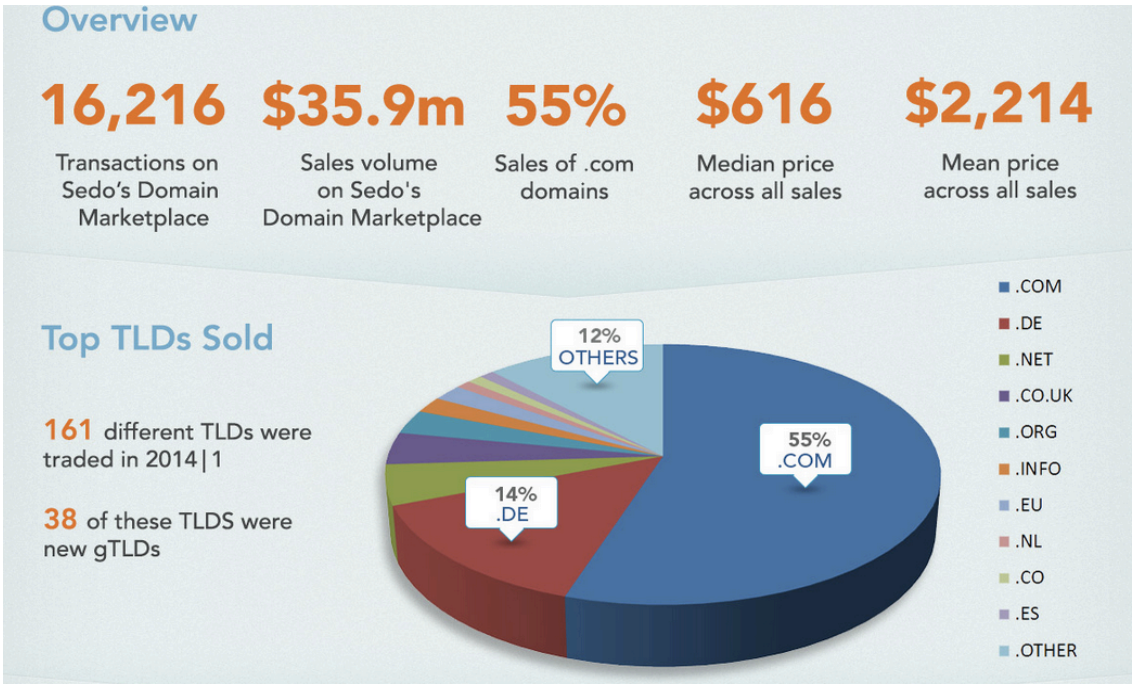


Figure 33

Figure 34

While it is true that most of the best sellers are still domain names under the most popular gTLDs, it is also true that six out of ten extensions in the top-10 are ccTLDs.

The .tk registry (Tokelau) has been one of the pioneers in domain name auctions. In September 2009 they announced the first live domain name auction with live broadcast on the nic.tk site. During the auction a total of 212 lots were auctioned, mainly generic domain names, like futbol.tk and poker.tk.

Using generic domain auctions is part of new marketing strategy for many DNS operators. Thanks to it, websites associated to these domain names are likely to increase search engine traffic once they are up and running. Therefore, they will attract more visitors. It is a sort of Internet real-estate investment.

Most of the auction platforms have become more and more popular with international auction fairs that are well attended by DNS industry leaders. Those who like to sell registered domain names can now benefit from free tutorials (see DomainSherpa) and websites where the percentage to be given to the sale platform are displayed. See an overview of them below.

Domain Marketplace	Commission	Buy It Now Pricing Range
GoDaddy.com [1, 2]	20% ($15 minimum) Commission for Domain Sale up to $5k $1000 + 15% of amount over $5k Commission for Sale above $5k $4000 + 10% of amount over $25k Commission for Sale above $25k Auctions: $4.99/year + Commission Above	$50 to $99,999
Flippa.com [3]	10%	$1 to $100,000,000
Sedo.com [4]	Buy Now: 10% [4a] Other Sales on Sedo: 15% SedoMLS Premium Sales: 20% (Commission exclude VAT for EU residents)	$90 to $10,000 (unless appraised higher)
DomainNameSales.com [5]	Self-broker: 0% DNS Broker: 15% ($175 minimum)	$1 to $100,000,000
Afternic.com [6]	Network Level: 15% Premium Level: 20%	$1,500 to $49,999,999

Table 8

We have taken screenshots of the premium domain names of the some of the investigated region TLDs from two of the most used domain auction operators (GoDaddy auction and Sedo Premium Domain Auctions). We have also investigated and monitored the domain names sold via an auction regional site, gulfnames.com.

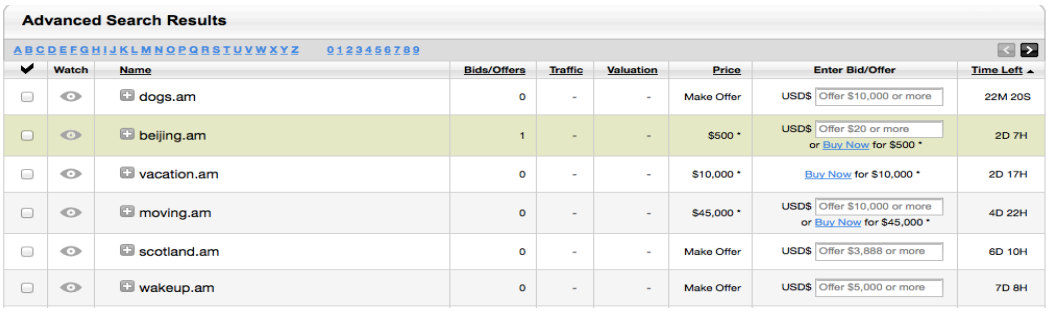
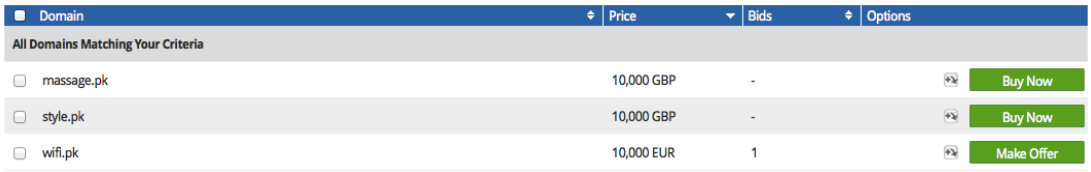


Figure 35



Domain	Price	Bids	Options
All Domains Matching Your Criteria			
amazon.tn	10,000 GBP	-	Buy Now
bing.tn	10,000 GBP	-	Buy Now
888.tn	10,000 EUR	-	Buy Now
start.tn	10,000 USD	-	Make Offer
toyota.tn	7,000 EUR	-	Make Offer
auction.tn	6,000 EUR	-	Make Offer
xx.tn	3,999 EUR	-	Make Offer
tv.tn	2,999 USD	-	Make Offer

Figure 36

Domain	Price	Bids	Options
All Domains Matching Your Criteria			
pay.sa	10,000 GBP	-	Make Offer
trading.sa	Make Offer	-	Make Offer

Figure 37

All Domains Matching Your Criteria			
iranappmarket.ir	7,887 GBP	-	Make Offer
iranarike.ir	7,887 GBP	-	Make Offer
iranianandroid.ir	7,887 GBP	-	Make Offer

Figure 38

Gulfnames.com

Premium Domains

matrix.qa	USD 18000
abudhabiexchange.com	USD 18299
luxurycars.qa	USD 35000
dohaaviation.com	USD 33000
abudhabiauto.com	USD 18000
uktour.org	USD 38000
classiccars.tv	USD 50000
bestcars.qa	USD 14500
visitvisa.ae	USD 8250
shippers.ae	USD 8000
gulffashion.net	USD 12000
gulfgroup.org	USD 12000
emailmarket.co	USD 7500
gulfboutique.com	USD 12000
delta.qa	USD 25000
textile.qa	USD 29000
freshfood.ae	USD 12000
coconut.ae	USD 12000

2 Letter Domains

gz.ae	USD 75000
lk.ae	USD 150000
uv.ae	USD 150000
xg.ae	USD 150000
vy.ae	USD 150000
ql.ae	USD 150000
xb.ae	USD 150000
xa.ae	USD 150000
vx.ae	USD 150000
px.ae	USD 150000
ys.ae	USD 150000
b1.ae	USD 25000

3 Letter Domains

woc.me	USD 10450
atg.qa	USD 24000
mhi.me	USD 12000
adb.me	USD 18499
dfs.me	USD 12000
qtc.co	USD 12000
mhi.me	USD 12000
hfs.me	USD 12000
dfz.me	USD 14500
qig.me	USD 14500
azh.me	USD 8000
ebn.me	USD 9750
kac.me	USD 12000
eix.me	USD 4999
aip.me	USD 12000
aen.me	USD 24000
hkc.me	USD 18000
hkb.asia	USD 9700

Figure 39

From the above screenshots we can conclude that there is already a premium domain market for the extensions of the investigated countries. It is difficult to understand if part of it is due to the difficulties that are still present for registering domain names under the local TLDs, meaning that those who made it through the registration process are taking advantage of it.

Domain names that target a larger market are more valued.

Prices of the domain names under the region extensions were not adjusted during the search time (3-7 September 2015) while they tend to increase for certain TLDs, mainly .com, .net and .org, if the domain is queried considerably.

Certain domain names on sale under the regional extensions correspond to trademarks. That suggests the presence of local or international domainers that are still daring to register this kind of domain despite possible legal consequences and liabilities.

Longer is not better. Even for regional domains under auction short and simple names are valued more as they are easy to remember and, therefore more useful in the long term. That explains the incredibly high number of two letter names on auction.

All the regional domain names spotted in the various auctions contain only letters. There were no IDNs and/or domains with special characters, hyphens and/or numbers. That slightly contradicts one of the patterns in domain name sales which is that domain names in widely spoken languages associated to the TLD are likely to be valued more.

There is a myriad of factors that determine the value of a domain name, but the major factors are memorability and keyword/SEO optimisation. We believe that the high prices of some of the domain names in the screenshots pasted above are due to a possible, high positioning in SEO.

V. Quantitative analysis of domain name uptake across the MEAC region

Introduction

This section provides a quantitative analysis of domain name registrations across the MEAC region. The methodology is described on pages 12 and 13 and unless otherwise stated the domain name registration figures presented here are based on data gathered at the end of Q2 2015. There follows a regional/country-base breakdown of domain name registrations and penetration, including ccTLD vs gTLD uptake, distribution of gTLDs in the region, and growth since 2009. Internationalised domain name penetration is reviewed including uptake of Arabic script new gTLDs, followed by analysis of how far domains in the region are actively used and uptake of privacy proxy WHOIS services.

The section concludes with a quantitative analysis of how domain names in the region are being used, covering the language of web content, percentage of parked pages, and how popular keywords can indicate the type of content in active websites.

Domain name registrations across the region

Based on the limited dataset (ccTLDs plus gTLDs hosted in region), we found at least 2.9 million domain names associated with the region:

- 1.5 million are ccTLDs,
- 1 million are gTLDs with websites hosted in region, and
- At least 0.4 million are gTLDs hosted outside the region.

ICANN's Request for Proposals asked for information about domain names associated with the region, but whose websites were hosted outside of the region. From the zone files of 150 million gTLDs, we arrived at a larger dataset by adding Arabic script domains, and Arabic language content described in 2(b) and (c) of the methodology above[118]. This increased the size of the gTLD dataset. One of the parameters we used in the query was the number of Arabic characters found on relevant webpages. With the threshold set at 20 Arabic characters, we found 1 million gTLD domains hosted outside of the region. There were a high number of domains hosted in China and Hong Kong, which reflected a known false positive (between low numbers of Arabic characters and Chinese script). Setting the threshold at 50 Arabic characters reduced the number of gTLDs hosted outside the region to 400,000.

This figure is necessarily imprecise and represents a minimum threshold. We have no doubt that there are more gTLD registrations belonging to registrants in the region, which are hosted out of region. We did not undertake large-scale WHOIS lookups on the entire 150 million zone file, for privacy reasons and because there is no longer provision for bulk WHOIS access from authoritative sources (gTLD registrars), but doing so may have revealed addresses in the region

[118] See pages 12-13

for registrants. Instead, we focused on script and language, as likely to reveal content associated with the region. The methodology would not pick up externally hosted domains relating to Turkey (Latin script). Nor would it pick up English or French language content relating to the region. Both English and French are widely spoken throughout the region, and according to our analysis are widely used in web content. Nor would it differentiate between Arabic script content relating to countries outside the region, e.g. Indonesia.

On balance, we believe the figure of 0.4 million for gTLD domains hosted[119] out of the region should be considered a minimum figure, as it comprises Arabic script IDNs, and Arabic language content only. It does not include Turkish, English and French language sites associated with the region.

The research team analysed the distribution of all 2.9 million domain names associated with the region. Of the externally hosted domains, large clusters appear in countries with strong international registrars, such as United States, Canada, Germany. High numbers are also hosted in China and Hong Kong. Arabic script domains, and websites with Arabic script content are hosted all over the world, perhaps reflecting Arabic populations in many countries.

Within the dataset of ccTLDs and gTLDs hosted in region, the highest numbers were found in Turkey (1.2 million) and Iran (700,000), and the lowest in Mauritania (2), and Comoros (1). Note that ccTLD data was not available for every country in the region[120]. Therefore, the numbers in some countries may be higher.

[119] Please see footnote 1 for an explanation of the term 'hosted'

[120] ccTLD registration data from the following countries was not available at the Interim report stage: Bahrain, Comoros, Djibouti, Iraq, Kuwait, Mauritania, Somalia, Sudan, Syria, and Yemen. The Bahrain ccTLD kindly provided registration numbers at the public comment.

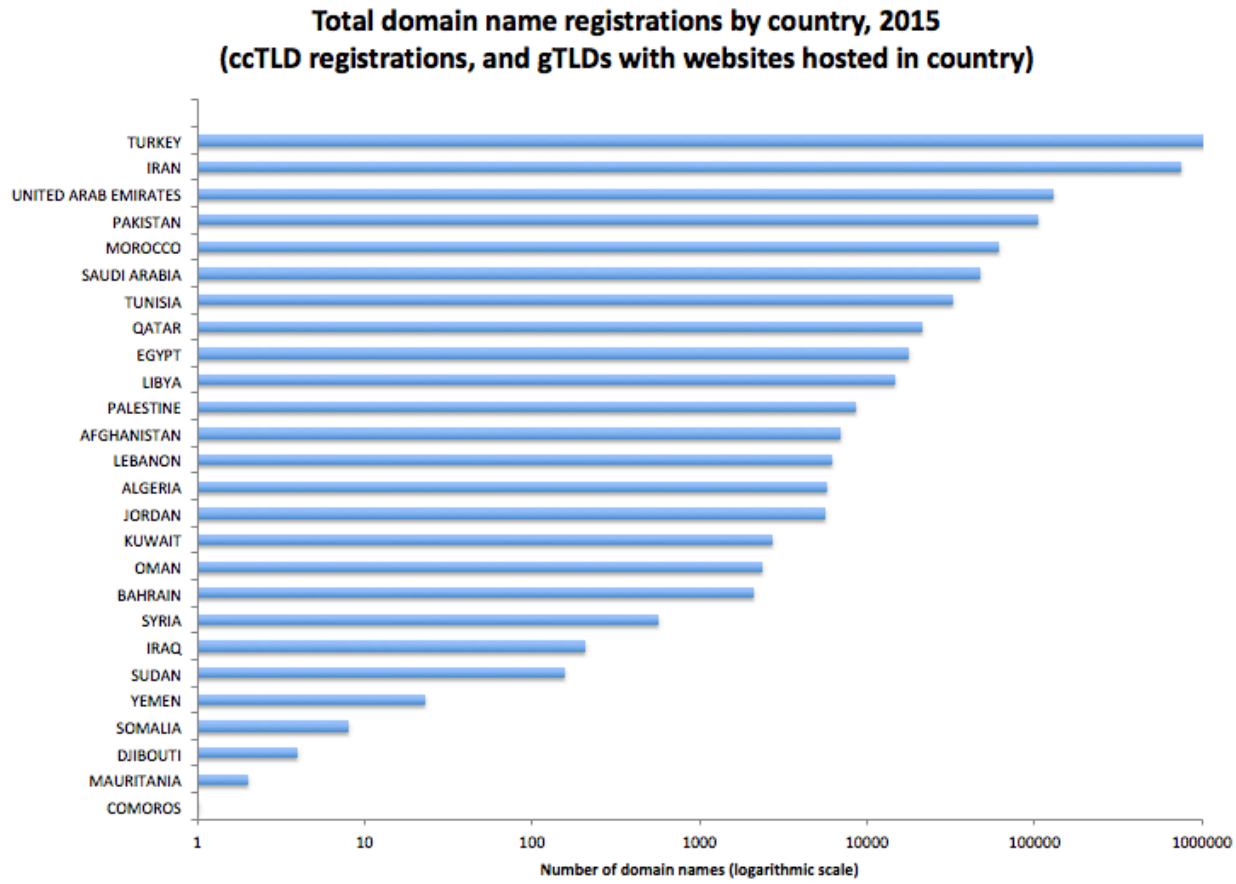


Figure 40 Total domain name registrations by country (logarithmic scale)

To facilitate comparisons between the countries studied and with other world regions, we normalised the domain name registrations to "domains per 1,000 of population" to allow for the diverse population sizes in the sample.

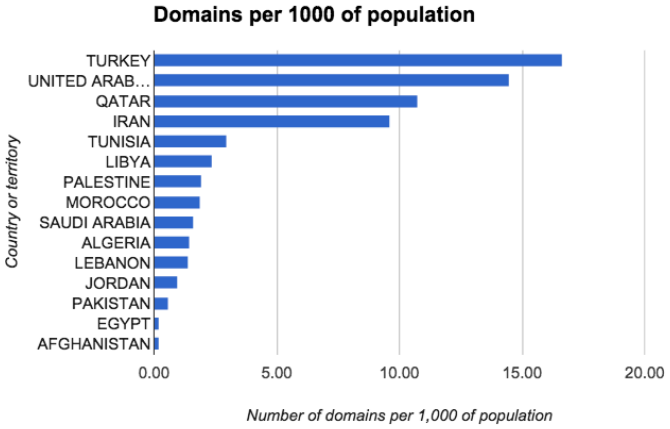


Figure 41 Domain penetration by country (domains per 1000 of population)

We created a sub-group of 15 countries for further study. Of these, the highest domain penetration is found in Turkey, and UAE, with around 15 domains per 1,000. Qatar and Iran had around 10 domains per 1 000 of population. By comparison Netherlands has 330 domains per 1 000 of population, United Kingdom 165, Italy 46 and Croatia 20[121].

The other eleven countries reviewed on this metric averaged just 1.4 domain names per 1,000 of population, with Afghanistan and Egypt the lowest at 0.2 domains per 1,000 of population.

	Domains per 1000	GDP per capita	ICT Development index	Online population	Broadband prices
TURKEY	16.7	10530	68	47%	1.1
UNITED ARAB EMIRATES	14.5	44204	32	88%	0.8
QATAR	10.8	97519	34	85%	0.3
IRAN	9.6	5315	94	31%	2.4
TUNISIA	3.0	4317	99	44%	0.9
MOROCCO	1.9	3103	96	56%	4.7
SAUDI ARABIA	1.6	24161	47	61%	0.9
ALGERIA	1.5	5490	113	18%	2.1
LEBANON	1.4	10058	62	71%	2.5
JORDAN	1.0	5423	87	44%	2.1
PAKISTAN	0.6	1334	142	11%	1.3
EGYPT	0.2	3199	89	50%	2.8
AFGHANISTAN	0.2	659	155	6%	10.8

Table 9 Domain penetration and key economic indicators by country

We compared the domains per 1,000 of population with economic and ICT factors, namely Gross Domestic Product per capita (in US$), ICT Development Index ranking, Internet penetration, and broadband prices (Table 9). The economic and ICT factors were not available for Libya and Palestine, so it was not possible to include them in this comparison. For the remaining 13 countries, there are clear - although not perfect - correlations between domain name penetration and the other factors. This is most clearly seen in the case of Afghanistan, where Internet penetration is the lowest across the countries studied, broadband prices are highest, and the country is at the lower end of international rankings for GDP per capita and ICT development.

These comparisons remind us that countries that are struggling, either economically, or with conflict, are unlikely to be able to give issues such as domain name uptake much priority. Even without such challenges, where prices for basic connectivity are high in relation to average income per person, or high speed connection is not available, domain name registrations are unlikely to thrive.

ccTLD vs. gTLD registrations

[121] Source: EURid Progress report 2015 Q1, http://www.eurid.eu/files/Quarterly_Report_2015_Q1.pdf

Across the entire region, we found a total of 1.5 million ccTLD registrations[122]. This was supplemented with the gTLD data gathered from the publicly available zone files, totalling 1.0 million gTLDs hosted within the region within the region and a further 0.4 million gTLDs hosted outside the region[123].

Even with incomplete ccTLD data, we can see that ccTLD registrations represent half the registered domains relating to the region.

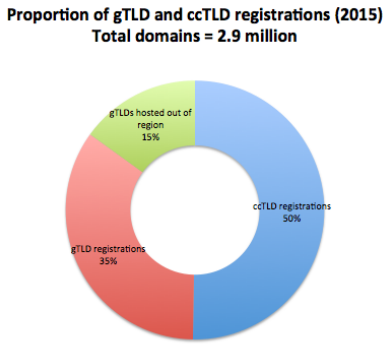


Figure 42 Domain registrations (compare ccTLD, gTLD hosted in region, gTLD hosted out of region)

Where ccTLD and gTLD data was available (17 countries), we could compare ccTLD and gTLD registrations by country. This analysis excludes gTLDs hosted outside the region, and is shown across two charts, reflecting the diversity in registration numbers. Even so, ccTLD registrations tend to be higher in every country where there is ccTLD data, the only exception being Turkey, which has nearly three times more gTLD than ccTLD registrations. We will further elaborate on these figures later on in this paper.

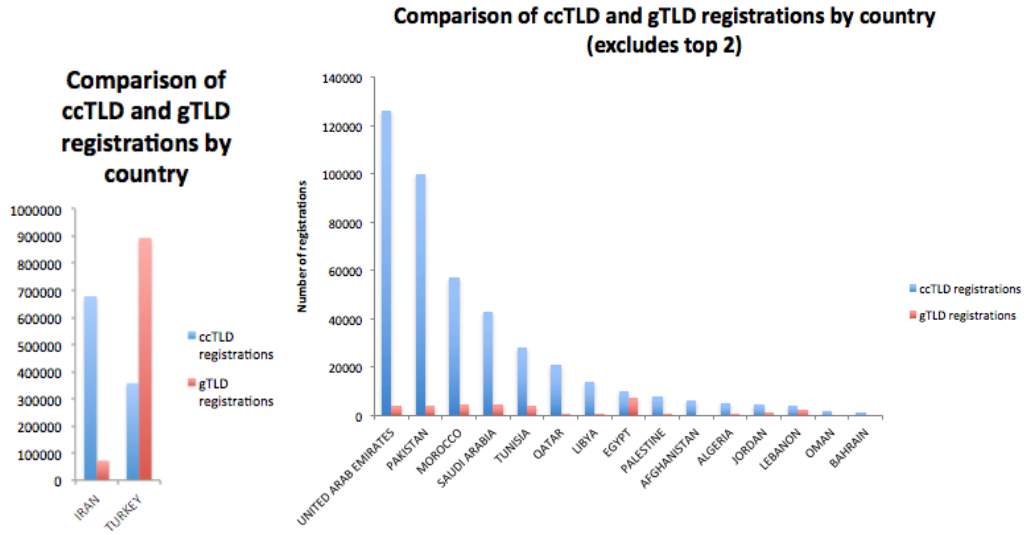


Figure 43 ccTLD vs gTLD registrations by country

[122] ccTLD registration data from the following countries was not available: Bahrain, Comoros, Djibouti, Iraq, Kuwait, Mauritania, Somalia, Sudan, Syria, and Yemen.
[123] Please see footnote 1 for an explanation of the term 'hosted'

Arabic script new gTLD IDN registrations with websites hosted out of the region were included in our zone file analysis. The results indicate that some hosting providers based in the region may be offering services (e.g. cloud hosting) whose servers show up as outside the region. For example, ICANN accredited registrar KuwaitNet holds 80% of the registrations in the Arabic new gTLD dotmawqe (xn—4gbrim) on behalf of its customers[124]. However, the hosting analysis indicates that these domain names are hosted out of region.

There is anecdotal evidence that .tk is popular in Turkey as an alternative to the ccTLD. Due to the .tk not being an open zone file we were unable to examine the number of .tk registrations relating to Turkey. Therefore, the number of registrations represents a minimum amount and could be higher.

Distribution of gTLDs in the region

Popular gTLDs

By far the most popular gTLD in the region is .com, with more than 80% of gTLD registrations. Similar patterns are repeated across the individual countries. Egypt shows a slightly higher preference for .net and .org relative to .com, and a few .asia registrations.

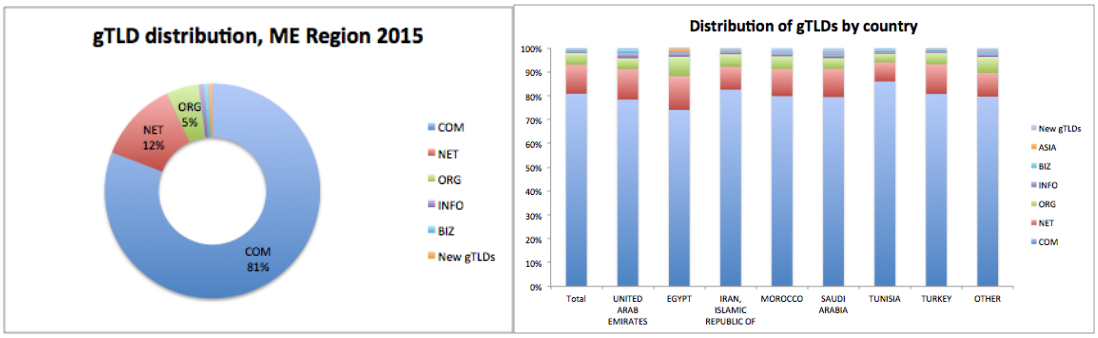


Figure 44 Distribution of gTLDs across the region and by country

New gTLDs

As part of our zone file analysis of 150 million domains, we reviewed uptake of new gTLDs in the region. The review includes registrations in IDN new gTLDs, including the Arabic script new gTLDs that have launched

[124] See https://ntldstats.com/tld/xn--4gbrim, accessed 22 September 2015

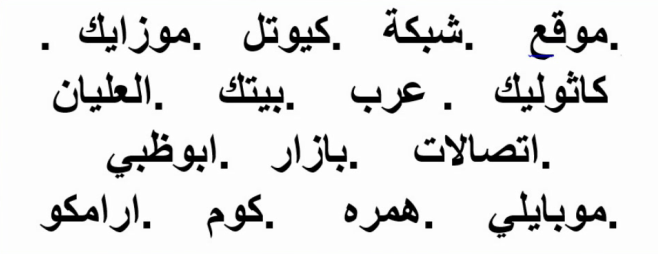


Figure 45 Arabic script new gTLD applications[125]

The zone file analysis indicates that new gTLDs are yet to make much impact, representing less than 1% of gTLD registrations in the region. Turkey accounts for nearly 90% of the new gTLDs in the region, with more than 4 000 registrations (Figure 46). Turkey also has the most diversity in new gTLD uptake in terms of registries. Whereas most countries have a handful of registrations across fewer than 20 new gTLD registries, Turkey's new gTLD registrations span 190 different new gTLD registries (Figure 46.1).

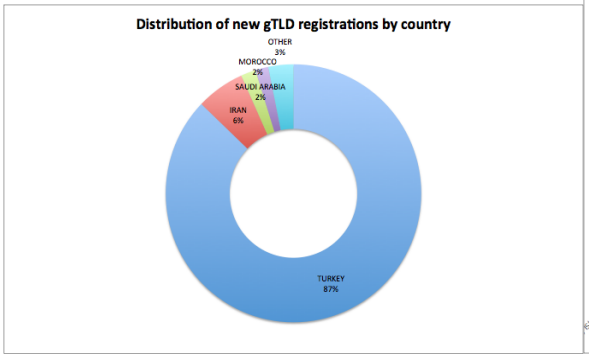


*Figure 46 Distribution of new gTLD **registrations** by country*

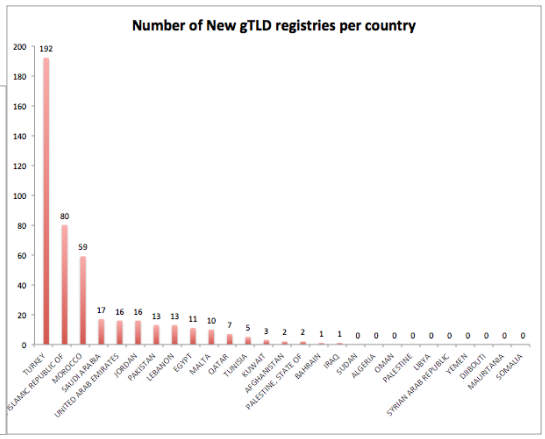


*Figure 46.1 Number of new gTLD **registries** by country*

Uptake of Internationalised Domain Names in the region

There are approximately 6.2 million Internationalised Domain Names in the world (Dec 2014). We have detected a total of 49 000 IDNs associated with the region (December 2014), of which 21 000 are ccTLDs, and 28 000 are Arabic script gTLDs. When we measured the gTLD zone files in mid-2015, we found that the number of IDNs in gTLDs had dropped to 22 000 (Figure 47).

[125] Source: Presentation of ICTQatar, ICANN ME DNS Forum, https://icann.adobeconnect.com/p6tcakxprs9/?launcher=false&fcsContent=true&pbMode=normal accessed 5 June 2014

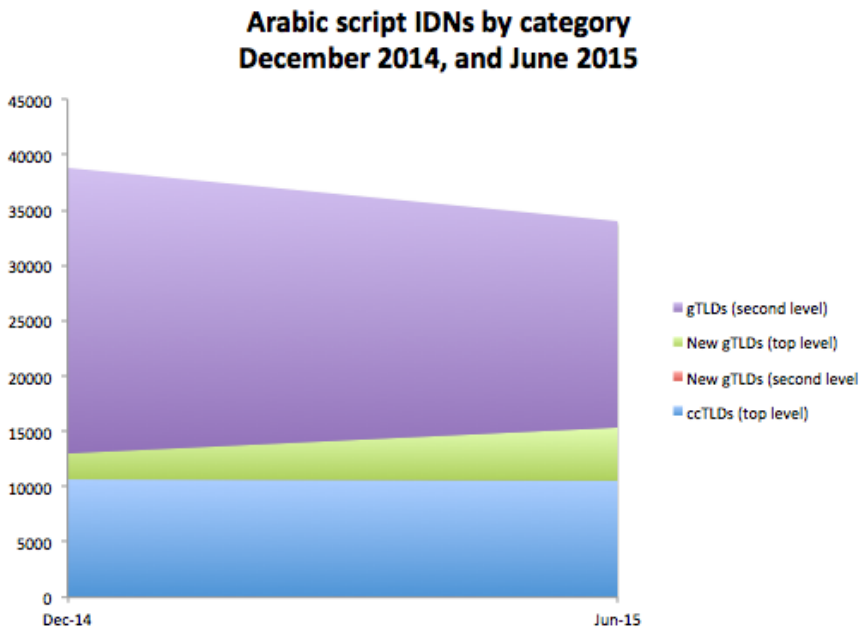


Figure 47 Arabic script domains

The main losses were felt at the second level under traditional gTLDs (eg. .com, .net, and .info), which dropped from 26 000 to 19 000 in the six month period. The handful of Arabic script second level domains under ASCII new gTLDs disappeared in the same period. Meanwhile, the number of Arabic script new gTLDs (top level) grew from 2 200 to 4 800 in the same period. The growth in Arabic script new gTLDs is in part due to timing of launches (eg. dotmawqe launched general availability in April 2015), and may also result from users abandoning mixed script, bi-directional domains under ASCII endings in favour of full IDNs.

IDNs in ccTLDs

There are approximately 21 000 IDNs in the ccTLDs of countries included in this Study, of which 10 000 are at the second level under .tr (Turkey - Latin script). The remaining 11 000 are Arabic script full IDNs, of which four registries (Iran, UAE, Saudi Arabia and Egypt) make up 80% (of the subset of Arabic script full IDNs).

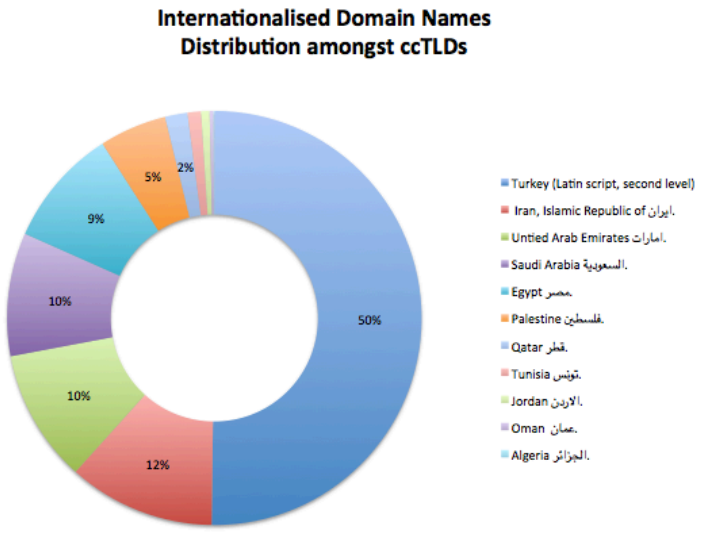


Figure 48 Internationalised domain names – distribution amongst ccTLDs

The number of IDNs (ccTLDs) found in Arab States and Latin America and the Caribbean is low compared with other world regions (Figure 49). This reflects the later introduction of IDNs in these regions, compared with others where IDNs were immediately available as soon as they became technically implementable. Note that this analysis places all gTLDs together, rather than associating them with world regions.

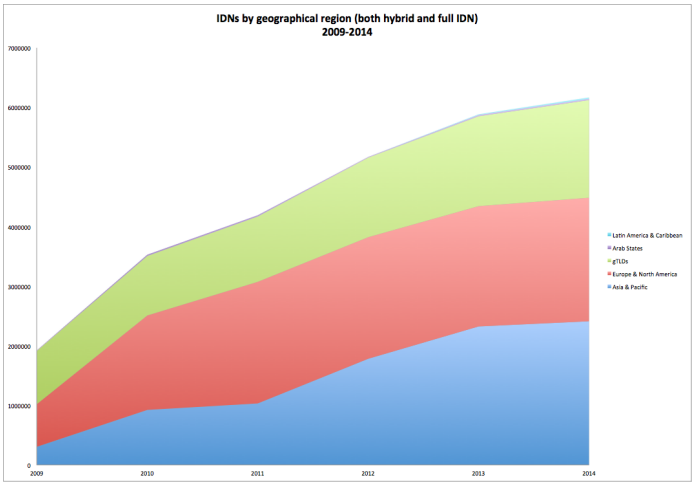


Figure 49 IDNs by geographical region (2009-2014)

As well as ccTLD IDNs, there are Arabic script IDNs at the second level under traditional gTLDs (eg. .com, .net, .biz and .info etc…) and Arabic script IDNs at the top level under new gTLDs. To understand the possible distribution of Arabic script IDNs in the region, we looked at IDNs by script and TLD from our zone file analysis.

IDNs in gTLDs

The 'traditional' gTLDs, such as .com, .net, .org., biz and .info offer IDNs at the second level under the ASCII ending. Verisign has recently announced that it intends to launch full IDN equivalents of .com and .net in major scripts including Arabic[126], expected in early 2016.

Arabic script new gTLDs – in more depth

As at December 2014, there were 91 000 full IDNs in new gTLDs. 2% (2 200) were in Arabic script. The leading IDN Arabic script new gTLDs are dotMawqe (xn—4gbrim) and dotShabaka (xn—ngbc5azd).

DotShabaka, launched in November 2013, went on general availability in February 2014 and quickly achieved more than 2 000 registrations. It started to feel the impact of first renewals from April 2015, declining to 1 500 registrations at time of writing (September 2015)[127]. The percentage of parked domains is currently just above 30%, indicating a relatively healthy level of live sites for a new gTLD registry. Presentations by the DotShabaka registry at Middle East DNS Forums in 2014 and 2015 identified key challenges as low public awareness of Arabic script IDNs, and universal acceptance issues with IDNs.

DotMawqe launched in late 2014 and went on general availability in January 2015. It quickly achieved 3 000 registrations. At the Middle East DNS Forum 2015, the registry manager was upbeat about the success of their strategy to target 'anchor' registrants such as Al Jazeera (which incorporated the domain into its Arabic logo)[128] and other well-known brands from the region. The new dotMawqe domain was also used for a site in honour of King Abdullah of Saudi Arabia, which attracted more than one million visitors[129].

The registrar market shares of these two IDN registries show different patterns. The majority of registrations (80%) for dotMawqe are held by KuwaitNet, a well-established ICANN accredited registrar based in the region. In contrast, the majority of dotShabaka registrations are held by large international registrars. 101Domains has (66%) and other leading registrars for dotShabaka specialise in brand protection (eg Com Laude, CSC, MarkMonitor, Instra).

According to Abdulghani Kataya, Arabic writer and editor at Wamda[130], "Challenges to Arabic domain names are not only market-based, where users have grown accustomed to English

[126] http://www.demys.com/2015/07/internationalised-versions-of-com-to-go-live/
[127] See https://ntldstats.com/tld/xn--ngbc5azd
[128] See http://bit.ly/1DfxCQh - the Al Jazeera logo includes
[129] See https://icann.adobeconnect.com/p3zyuxip7a3/?launcher=false&fcsContent=true&pbMode=normal from :20 minutes and :38 minutes

[130] http://www.wamda.com/2015/09/does-your-business-really-need-an-arabic-top-level-domain

TDLs, but also technical. Creating Arabic URLs requires more effort and while acquiring Arabic TLDs may be easy, activating them is not. This is why dotShabaka offers three solutions. The first is forwarding from the Arabic domain to the original one. For example if the user accesses the Arabic URL for Wamda - شبكة.ومضة - they are automatically forwarded to the English version. The second is also forwarding but the Arabic domain remains visible, and the third is complete "forwarding" or converting to Arabic, in which case the owner would be required to design the website all over again in Arabic. This way, clients could benefit from "Arabic domain names, SEO improvement and websites with Arabic content."

A speaker from KuwaitNet at the Middle East DNS Forum 2015 described the difference in user response between hybrid, bi-directional IDNs, and full IDNs. "Users come to us for an end-to-end interface in Arabic. When .com started offering IDNs, we didn't exceed 200 names. With dotMawqe, there were 2 000 domains in 60 days. People do want these. People started to buy the names. We used a payment gateway that offers an Arabic Interface."[131]

Growth rate of domain name registrations

ccTLDs

The research team holds historic ccTLD registration data for many of the countries in the region. However, the data has gaps. Historic data (2009-2011) for many of the countries is not complete. Some of the registries in the region have undergone transfers and reorganisations in the time period (e.g. Tunisia's .tn, which relaunched in 2011). Some countries in the region do not publish historic registration data. Therefore, it is challenging to fill in gaps.

Overall, the data becomes more complete in the more recent years. Where there are gaps in the data, we have estimated using the latest data we have[132]. The gaps in data tend to overstate growth rates over time.

[131] Comments of Bashar Al-Abdulhadi, http://amman2015.mednsf.org/en/ (summary, Day 1, session 3)

[132] The authors thank the ccTLD registries who kindly provided updated figures during the comment period for this Study.

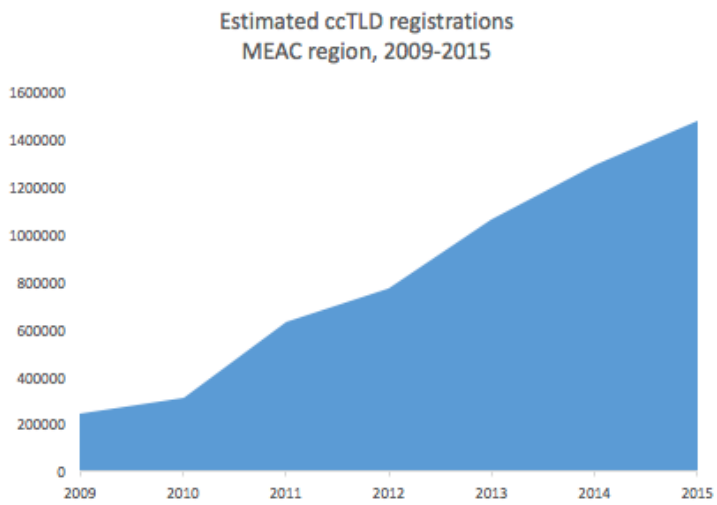


Figure 50 Estimated ccTLD growth 2009-2015

At close of 2014, we estimate that the number of ccTLD registrations (comprising ASCII domains and IDNs) in the region to be 1.3 million. By end of Q2 2015, this had increased to approximately 1.5 million. Note, however, that the figures for 2015 include some ccTLDs (notably Pakistan) for which we do not have historic data, which may distort growth figures for the region.

Across the region, ccTLDs experienced an average of 23% annual growth in the three-year period 2011-2014. Iran has performed strongly during the period with an average of 32% annual growth.

Information from the Tunisian ccTLD registry illustrates the impact of deregulation. The motivation for reform was to provide "a better response to the needs and expectation of the citizens. The reform sought to lighten the administrative procedures, ameliorate the administrative and technical distribution in domain name management and to progressively open the domain names space directly under the .tn root. The overall aim was to transfer domain name registration to an online platform with electronic payment capabilities.[133] " The reform process completed in July 2010.

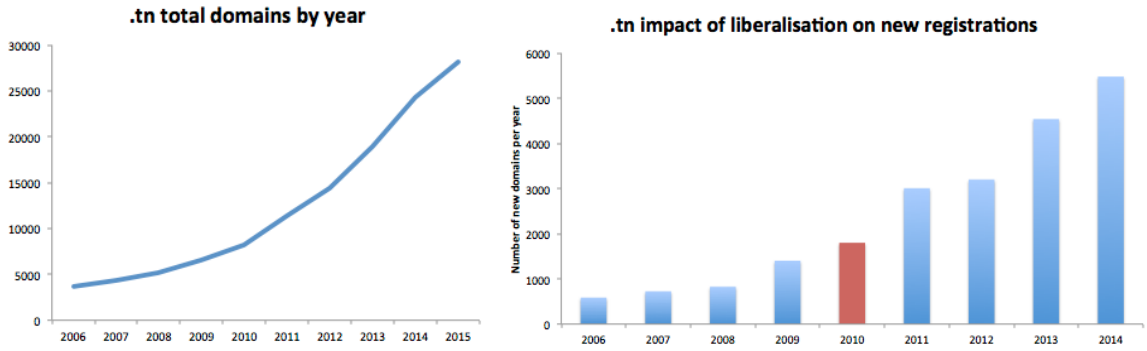


Figure 51 impact of liberalisation on domain registration volumes, Tunisia *Figure 51.1*

[133] http://registre.tn/fr/index.php?rub=262&srub=327

Immediately prior to reform (July 2010), .tn had 7 500 registrations, and net growth for the period between 2006-2009 averaged at 900 domains per year. Since 2011, the registry has grown by an average of 4 000 domains per year, more than a fourfold increase in numbers, and today the .tn domain has 28 700 registrations[134].

Other ccTLDs with average double-digit annual growth rates since 2010 are Iran, Saudi Arabia, and Qatar[135].

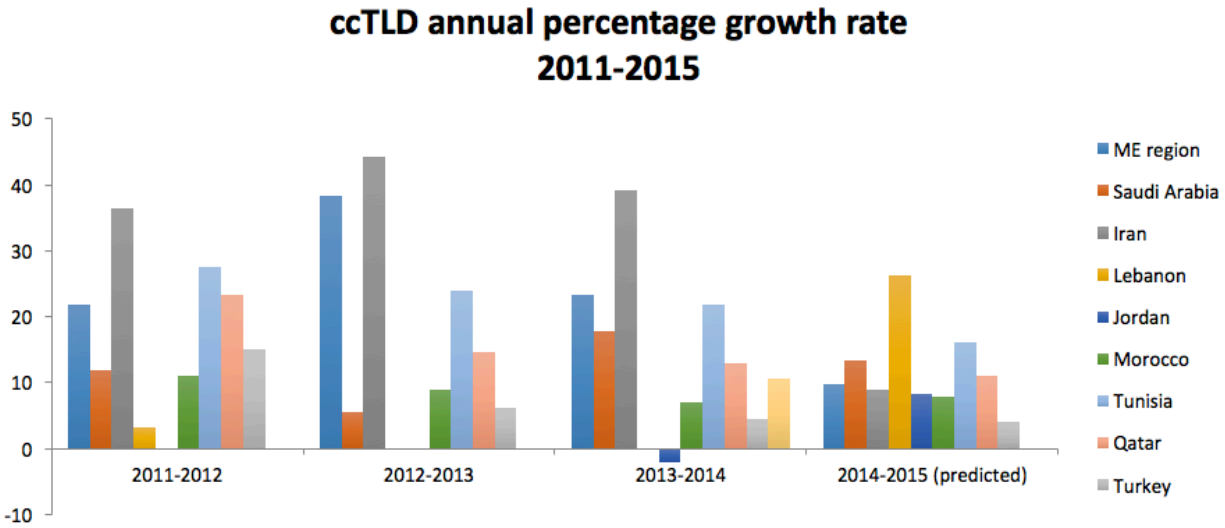


Figure 52 ccTLD annual percentage growth 2011-2015

The average annual percentage growth rate is higher than that experienced in the rest of the world, where growth rates are tending to flatten. High percentage growth rates in the region can indicate healthy markets and/or changes in the registry management and/or policies. Alternatively, they can result when overall numbers are low, as small changes can result in high percentage changes. The number of domains per 1 000 of population (e.g. Iran has 9.6 domains per 1 000, Tunisia 3 per 1,000) indicates that the region has low domain name penetration compared with other countries (see Figure 41 above). The high percentage growth should be seen in the context of low domain name penetration, but also indicates potential for future growth.

gTLDs

[134] See historic registration figures at http://www.registre.tn/fr/index.php?rub=262&srub=329

[135] Thanks to the .ma (Morocco) ccTLD for providing updated figures on growth (average 9% per year between 2010-2015. We do not have complete data for every ccTLD in each year (eg UAE, and Lebanon). However, UAE showed 11% growth between 2013-2014.

Data is not available to show gTLD growth rates for the region, as the zone file analysis for this Study represents a snapshot in time in mid-2015. Any models showing historic growth of gTLD registrations in the region would be based on numerous assumptions. In reality, we see that registration volumes are not linear, and some have fallen as well as risen. Therefore, we do not present historic growth data for gTLDs relating to the region.

We do know the historic figures for worldwide gTLD registrations, and that approximately 1% relate to the region.

IDNs

This section draws on ccTLD data published in the World Report on Internationalised Domain Names (2012, 2013, 2014). It does not include gTLD IDNs which may be hosted in the region.

Since 2009, there has been a 140% growth in the number of IDNs in the region. Overall, the numbers remain low in comparison with other regions. Growth rate per year has been erratic with a downward trend, reflecting the disruption caused by new launches in the period from 2010-2012 and relatively static growth since 2013 (consistent with global trends in domain name registration).

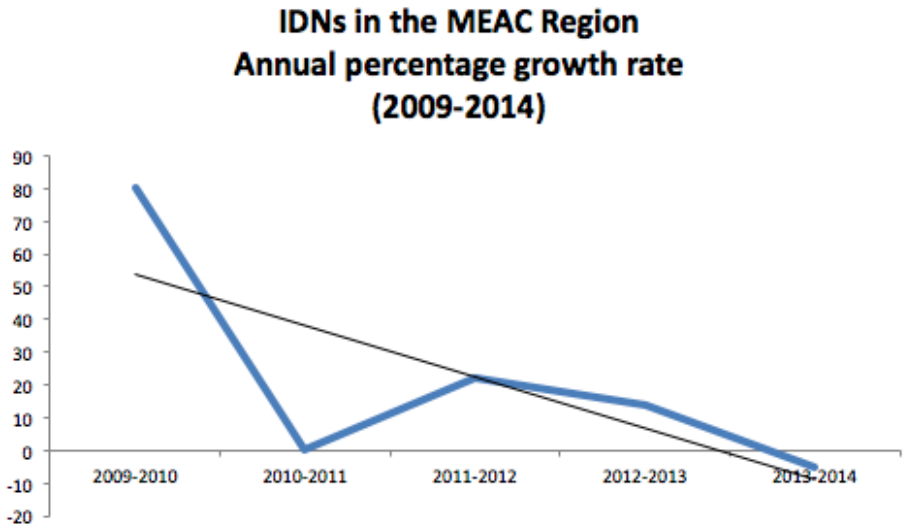


Figure 53 Growth rate of IDNs in the MEAC region 2009-2014

Over time, there has been an increase in the proportion of IDNs at the top level (full IDNs). In contrast to 2009, when all the IDNs in the region were at the second level, by 2014, half the IDNs in the region were full IDNs. That is mainly due to the ICANN ccTLD IDN Fast Track Programme that was launched in 2009 and which has led to the launch of numerous IDN

ccTLDs across the world. Before that year, ccTLDs could not request the delegation of their equivalent TLD in the local language.

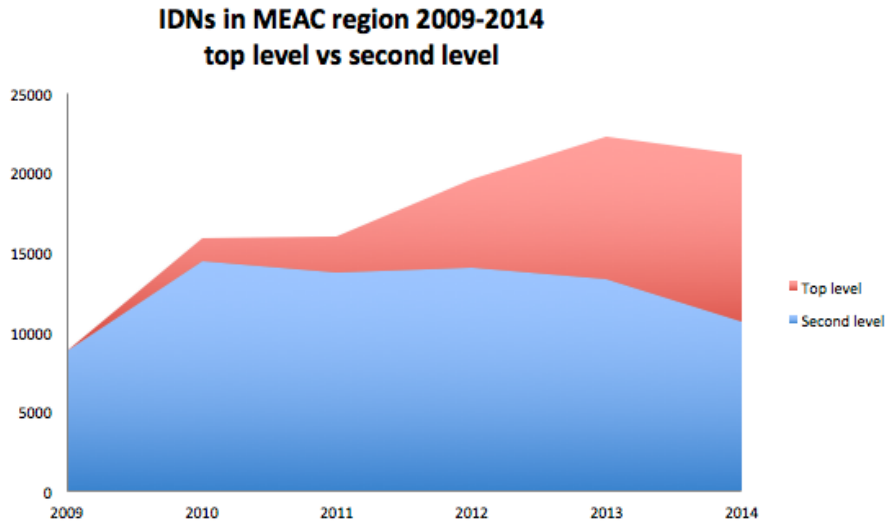


Figure 54 IDNs in the MEAC region: top level vs second level

Viewed by country, Turkey, with 10 000 IDNs has half the IDNs in the region, at the second level under .tr (Latin script, reflecting the Turkish language). In the context of full IDNs (Arabic script), strong performers in the region are United Arab Emirates, Saudi Arabia, Egypt, and Islamic Republic of Iran. For Figure 55, IDNs in Islamic Republic of Iran are represented in a single band, but in 2013 the ccTLD registry, IRNIC, transitioned existing IDN registrations at the second level under .ir to full IDNs under .ایران.

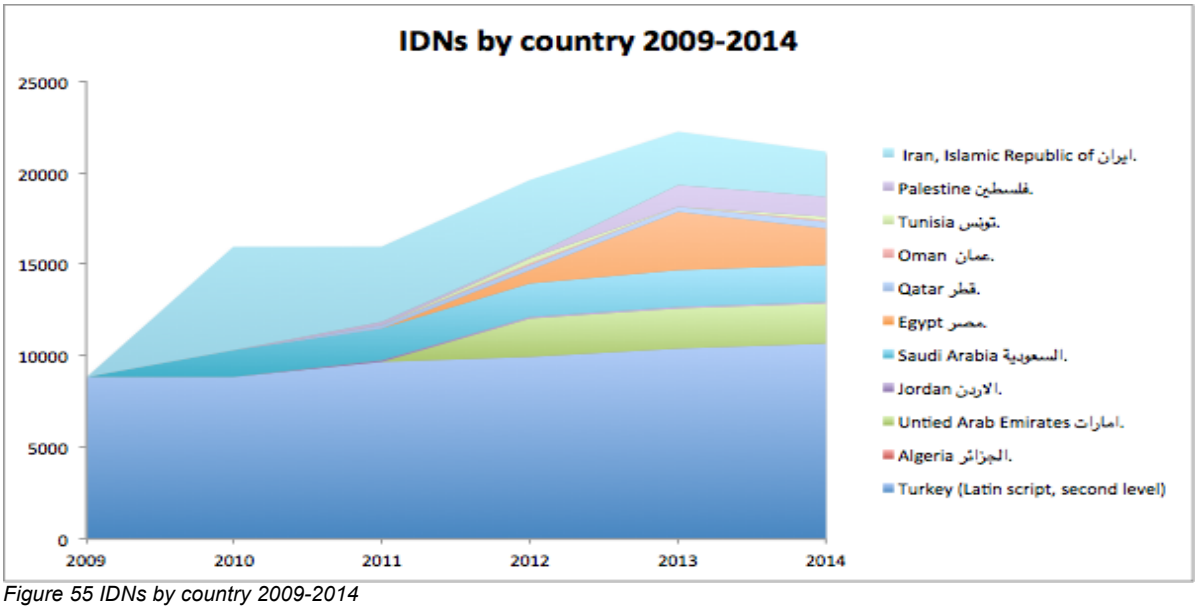


Figure 55 IDNs by country 2009-2014

Percentage of active domains

To determine the percentage of active domains, we reviewed the status of the 1 million gTLDs found to be hosted in the region through our zone file analysis. As ccTLD registries do not provide centralised open zone file access, the analysis does not include ccTLD registrations.

We found that, across the entire region, 88 % of the gTLD domain names are either active (66%) or redirect to active websites (22%). Only 12% are inactive. Note that the methodology produces overly high levels of usage, because by definition the IP2 location requires an active address at DNS level, and therefore, will exclude domains which have no active name servers or DNS mapping.

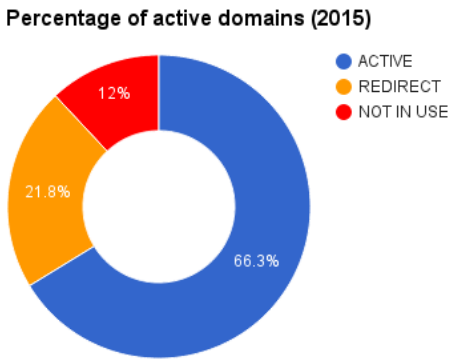


Figure 56 Percentage of active domains in the MEAC region

Research by EURid (2014) on the .eu TLD space indicates that average rates of non-use tend to be around 16-20%, and for redirects approximately 19.5%[136]. As expected with the methodology, our dataset has a lower level of 'not in use' domains. The level of redirects from the region (22%) is higher than the normal range seen in the comparators.

Percentage of domains that use private (proxy) WHOIS

Identifying privacy proxy registrations relating to the region was a challenge, because by definition the hosting and registration is not guaranteed to be region-based. The research team was also reluctant to undertake mass WHOIS searches. To narrow the data set, the agreed approach was to run WHOIS searches on domains featured in published lists of popular websites by country (Alexa.com top 500 per country).

[136] EURid, "Website usage trends among top-level domains", January 2014 http://www.eurid.eu/files/publ/WebsiteUsageTrends2014_EURid.pdf

We found, as have earlier studies[137], that in the 'overwhelming majority of cases' WHOIS information signals privacy proxy services with specific text to this effect, albeit there is no standardized fields for this purpose. We have reported only on those cases where privacy proxy registrations were clearly signalled. Some ccTLDs do not produce WHOIS output in a standardised format, or at all. These data are marked as 'unknown' in the findings.

The 500 top websites across 20 countries produced a potential dataset of 10,000 domain names. Because many sites appear in the top 500 across multiple countries, the number of unique domains was approximately 4,800, registered across both gTLDs and ccTLDs.

The median percentage of privacy proxy registrations (taking the median across all 20 countries) was 24%. A NORC Study (2013)[138], working from a sample, concluded that privacy proxy registrations accounted for 20% of registrations. Therefore, the rates of privacy proxy registrations are a median of 4% above global averages.

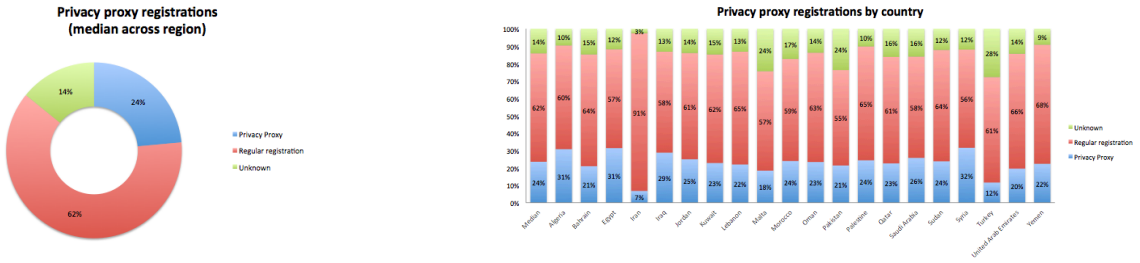


Figure 57 Privacy proxy registrations in the MEAC region, and by country *Figure 57.1*

Rates of privacy proxy registrations varied across countries in the region, with the lowest rates seen in Iran (7%) and Turkey (12%), and the highest rates in Syria (32%), Algeria and Egypt (31% each).

VI. Analysis of web content

Language of web content

[137] Clayton, R., Mansfield, A., "A Study of WHOIS Privacy and Proxy Service Abuse" http://www.cl.cam.ac.uk/~rnc1/whoisstudy.pdf

[138] NORC at the University of Chicago: WHOIS Registrant Identification Study Project Summary Report. ICANN, 2013. http://gnso.icann.org//en/issues/whois/registrantidentification-summary-23may13-en.pdf

From the list of 500 most popular websites by country (Alexa.com)[139], the research team analysed the language of web content. Data was not available for some of the countries in the region.

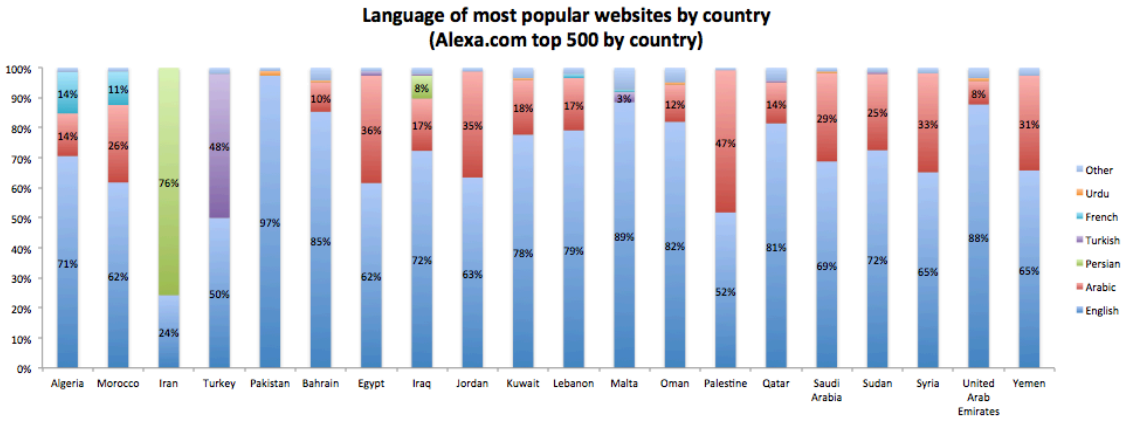


Figure 58

Overall, the English language dominates the web content in popular websites across the region, with a median of 71% of the popular websites in each country. Note that the language analysis may miss indicators of multi-language web pages.

While the top 50 websites typically include global giants (mainly US based), the top 500 per country also have many local sites – for example, of the 440 unique sites featuring in the top 50 of the countries above, only 100 appear across more than one country, indicating that the remaining 340 are local. Generally speaking, the further down the list the more local the sites. It therefore appears that local content or platform providers may be choosing to cater to local markets in English rather than local languages.

The lack of availability of popular websites in diverse languages contrasts with the language preferences expressed by users (see pages 32-33) particularly for interacting with friends, their government, and for uploading blogs.

In some countries, local languages perform strongly, principally Iran, where Farsi accounts for 76% of the top 500 websites, and Turkey (Turkish, 48%). Arabic appears across all but four of the countries in the selection, but with a median rate of only 22%. The highest instance of Arabic language sites is found in Palestine (47%), Egypt (36%) and Jordan (35%); the lowest in United Arab Emirates (just 8%).

The language of websites corresponds closely to the languages spoken in each country, with a median of only 2% representing other languages. This reflects other research findings[140].

[139] Alexa.com rankings have been used in widely cited research (eg by W3Techs) to determine language of web content, see http://w3techs.com/technologies. The value for this study is that the Alexa rankings span multiple countries, and therefore enable comparisons to be made between countries in the MEAC region.

[140] EURid UNESCO World Report on Internationalised Domain Names, 2014.

How are domain names being used?

Of the entire data sample (2.9 million domain names), 1.5 million are ccTLDs, for which the research team did not have access to the zone files. Of the remaining 1.4 million gTLDs (comprising 1 million hosted within the region, and 0.4 hosted outside the region[141]), not every domain name had active web content. The research team measured the web content of 1.1 million sites active gTLD websites associated with the region, comprising 300 000 hosted outside of the region, and 830 000 hosted within the region.

Parking and 'under construction' – single page sites

From the 1.1 million active gTLD websites associated with the region, the research team sought to identify sites used for parking or which were under construction. Our assumption was that sites which are under construction or used as parking pages are likely to have a single page of web content only.

To identify single page websites, we measured the number of internal links in each site. Between 20-30% of sites associated with the region are single page sites. 20% of the domains hosted out of the region, and 32% of the domains hosted in the region are single page sites.

There are large variations in the number of sites hosted in each country from 1 (Comoros) to 750 000 (Turkey). With low numbers, small changes in numbers can create large percentage differences (eg 100 % of sites hosted in Comoros have multiple pages (1 site)). Countries with large numbers of hosted domains, eg Turkey, United States and Iran also have a higher percentage of parked sites compared with rest of the world (see examples in table below).

Country	Number of sites	Percentage full site	Percentage parked
Turkey	754 805	67	33
Iran	48 672	72	27
United States	186 218	72	28
Germany	31 432	85	14
Hong Kong	23 576	83	17
Total in region	831 010	68	32
Total out of region	318 958	79	21
Grand total	1 149 968	71	29

Table 10 Country of hosting – most popular websites

[141] Please see footnote 1 for an explanation of the meaning of 'hosted'

Website usage by category

What is an accurate way to analyse website usage?

One approach could be to look for the presence of certain platforms, and make inferences about the type of site, eg Wordpress indicates a blog, WooCommerce indicates e-commerce. Popular content management systems such as Wordpress (originally developed for blogs) are increasingly used to deliver non-blog content, and therefore purely structural analysis is becoming a weaker method of analysis.

An alternative would be to manually review each site. With a data set of more than 1 million records, this is not feasible. Also, it is not always obvious what individual sites are.

Mass WHOIS searches are another possible approach, looking for clues in the contact details of registrant and other contacts. This approach has a number of shortcomings. First, it involves mass processing of personal data, which we have avoided where possible. Secondly, the prevalence of privacy proxy or inaccurate WHOIS records are a known issue, which undermines confidence in the results.

Instead, we decided to analyse keywords.

The latent semantic indexing algorithm is at the heart of most search engines including Google's document retrieval process[142]. Keywords (density, and togetherness, relevancy) are a critical factor in determining Internet visibility and presence, as they feed the latent semantic indexing algorithm. Keywords are how Google targets relevant content for adword placement[143] and are the core of Google Trend analysis[144].

Therefore, we study the density of keywords to determine content and derive meaning. This is more accurate than pure structural analysis, because keywords represent the 'bottom line' in Internet indexing.

Methodology

To undertake this further study, we visited each active site and captured the content of the first page. This produced approximately 1.14 million pages to consider. From within the page content we used Search Engine Optimisation (SEO) knowledge to identify key structural elements on the page which constitute meaningful content such as those used by Google and other search engines to index the page - these included meta tags, paragraphs and headings. Using this content we extracted the individual words in the source language (9.4 million data items) and after removing stop words (e.g. the, and, if etc) recorded these along with the

[142] https://en.wikipedia.org/wiki/Latent_semantic_indexing
[143] https://support.google.com/adwords/answer/2999770

[144] https://www.google.com/trends/

number of occurrences of each word in a database. We were then able to extract and report on the most frequently occurring words by country, region and for the whole set - these frequently occurring words were then translated to English (using Google Translate) for analysis.

One shortcoming of this approach is that, for reasons of cost, the translation was made after the top keywords were found. This meant that the same keyword in e.g. Arabic and English would not be combined and treated as the same word during the counting phase and may have resulted in some words not receiving their true prominence (see for example, 'web' and 'the web' in the table below). It is felt however that this did not adversely affect the qualitative assessment of the themes emerging from the keywords. Another shortcoming is inaccurate or garbled translation, which occurred in some cases. Our results exclude those terms.

Results – popular keywords for websites associated with the region

The following table shows the most popular 15 keywords (excluding unintelligible terms) from the entire data set, region only, and region excluding Turkey

Hosted anywhere	Hosted in region	Hosted in region (exclude Turkey)
Web	Web	Allah
Net	Escort	Company
Year	Ankara	Designing
Escort	For sale	Goods
Ankara	Service	The web
For sale	The weather	Iran
Service	Special	Sales
The weather	Wild	Almighty
Special	Property	Web
Wild	Code	Buy
Property	Area	Year
Code	Father	Pray
Period	Turkey	Parallels
Area	For rent	Location
Father	Parallels	Net

Table 11

Keywords from the entire dataset and the region are fairly similar, indicating technical, news, commerce, property and possibly tourism (place names). The word "Parallels" is the name of a technical control panel, and may indicate holding pages.[145] We found that results from Turkey (more than 700 000 domains) were dominating the results. When excluded, keywords from the

[145] Thank you to John McCormac for this insight (from public comment).

rest of the region include several religious terms (Allah, Almighty, Pray) as well as evidence of technical, and commerce terms.

From analysis of the 150 most frequently occurring keywords in domains associated with the region (1.1 million), we produce the following tentative clusters of categories. The region seems to have a reasonable spread of website categories, ranging from news, public sector, educational, to technical and commerce.

Individual keywords can hardly be definitive – for example, “Istanbul” (occurring 79 000 times in 25 000 articles) could signal news, tourism, or simply an address for contact. Further clustering analysis to identify groups of keywords occurring on individual sites would yield more definitive categorisations.

Tech	News	Tourism	Commerce	Property	Religion	Public sector	Education	Social / blog
web	article	ankara	for sale	property	allah	transportation	scholarships	cam
net	the weather	turkey	Service	for rent	satan	housing	education	social
code	news	antalya	Company	land	zeal	health		follow
the web	weather	istanbul	Product	lease				author
parallels	sports	hotel	Quality					chat
systems		iran	Prices					write
technical		japan	Goods					comment
domain		izmir	Business					
hosting		aeu	Price					
system			Corporate					
hostname			Products					
computer			Trade					
cloud			advertisement					
Internet			Sales					
phone			professional					
mail			Cheap					
			Flower					

			Bosch					
			Carpet					
			Customer					

Table 12

VII. Analysis of Findings

Regional Web Ecosystem

This section applies strategic analysis tools to help understand the regional web ecosystem, and what forces for change (or conservatism) may arise from the 'far environment' and from inside the industry. The commentary will draw on the results of the data presented earlier in this paper and will look forward to the longer term impact on the industry in the region.

Broader ecosystem affecting Internet infrastructure and online services

The STEEP model, variants of which are used widely in strategic planning, assists in identifying drivers for change from the wider environment which may have an impact on an industry. It categorises drivers for change under five headings: sociological, technological, environmental, economic and political. In reality, life is not so neatly categorised. Like any model, STEEP analysis has its limitations. Many drivers for change span more than one category, with considerable overlap between sociological, technological, political and economic. Nor does the model help to understand which of the potential drivers for change will actually occur.

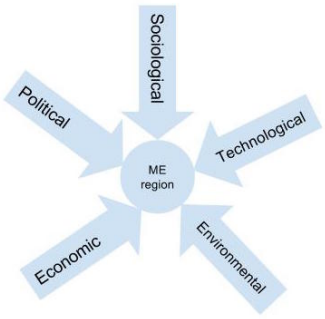


Figure 59

Overall, we believe that drivers from the far environment are just as likely to inhibit change as to bring about change. We have therefore organised our analysis under these two broad themes.

	Drivers of change	Factors inhibiting change
Sociological	• Young populations in many of the countries, new behaviours • Changing working patterns • Increasing literacy levels, and improvements in education • Popularity of social media	• Conservative social, cultural and historical forces • Traditional gender roles • Will the younger generations embrace more conservative or more liberal values? • Lack of local, well-trained technicians to support ICT industry
Technological	• Improvements in telecommunications infrastructure • Expansion of Internet Exchange Points • Popularity of social media • Cloud computing	• High prices for basic connectivity • Lack of investment • Low Internet access for certain population segments • Barriers to open connectivity
Environmental	• Climate change – emergence of greener technologies • Urbanisation, infrastructure development	• Large landmass, dispersed rural populations
Economic	• Emerging economies can experience rapid growth • Increase in GDP per capita • Governmental incentives to enhance Internet penetration • Internet access pricing diminishes • Development of innovative online payment and money transfer techniques	• Slow post-conflict economic recovery in some countries • Economic impact of existing conflict and displacement of people in some countries • Challenging conditions for investment, entrepreneurship • Large unbanked populations • Lack of external funds because of international sanctions and/or political restrictions
Political	• Post-conflict reorganisations, greater stability • Greater political freedom	• Impact of tensions between countries (both within and outside region) • Security concerns

		• Strict legislation or regulation on types of content / provider

Table 13

Within the past two decades, large parts of the region have been afflicted by war, conflict and political unrest. In a few countries there has been civil war, mass displacement of people and a fundamental breakdown in the security of individuals. The Internet, and uptake of social media, was credited with causing or at least enabling communications during the Arab Spring uprisings of 2011, but those same events also demonstrated the fragility of the Internet infrastructure – notably with the temporary cutting off of Egypt from the Internet during that time. The spread of smart phones with Internet and video capability has enabled some individuals within conflict zones to raise global awareness of suffering on the ground; it has also enabled fundamentalist groups to efficiently distribute video propaganda and recruit abroad.

There can be no doubt, however, that the impact of prolonged conflict and societal breakdown in some countries within the region is likely to inhibit investment (both external and internal), and lower the priority of building out basic telecommunications infrastructure, increasing speed and lowering costs of access. These are essential building blocks for a vibrant Internet, and by implication domain name industry.

Internet penetration across the region averages at 41%. According to a 2014 study[146], there are 85 million social media users in the region. However, the region's diversity also comes through in uptake of Facebook, with some countries (including Libya, Yemen) having lower than 10% penetration, and others having lower than 30% penetration. Egypt, which has the region's highest number of Facebook users, only has 23% penetration. Furthermore, mobile applications, such as Whatsapp are growing in popularity.

Social media platforms give individuals, business and other institutions an easy, low cost way of establishing an online identity, and interacting with friends or customers. The ease of uptake for social media, combined with the still-immature market for Internet services including hosting, website building, and related value-add services would tend to inhibit domain name uptake in the region. The pace of change in the global market, particularly the success of a handful of giant, cloud-based hosting services, makes it difficult for local providers everywhere to compete on cost or even quality of service.

Lack of web content in local languages is also likely to guide user habits and expectations: it is notable that users in our survey expressed a higher preference for using English language to interact with online retailers – is that because they *want* to use English, or because they are reflecting the reality that the most popular Internet retailers offer their services primarily through English? Despite these strong forces against uptake of domains in the region, there are also hopeful signs from our qualitative user survey. People use domains for direct navigation and check web addresses in search results before clicking; they prefer to interact with governments

[146] Mohammed bin Rashid School of Government, "2014 UAE Social Media Outlook" November 2014, http://www.mbrsg.ae/getattachment/3122bce8-b0e3-48e7-872e-2644fceb71ff/2014-UAE-Socual-Media-Outlook-Increasing-coneectiv.aspx

and retailers through websites not social media; users report that they tend to upload content to websites as well as social media.

At the same time, there are strong sociological and cultural forces which may inhibit change. At the level of the domain name industry, this manifests itself in fairly conservative ccTLD registry policies, which in turn tend to raise retail prices. Where registries have liberalised, for example .ae, .ma and .tn, strong growth can be achieved – and the same has been experienced in European ccTLDs over the past decade. For many ccTLDs, liberalisation is not viewed as appropriate for the needs of the local communities and may challenge tendencies towards control or prevention of harm. It is also not the case that growth cannot be achieved despite conservative policies (for example, the ccTLD in .sa has relatively high growth and registrations for the region thanks to a very modern approach and good registration services).

Finally, having a large unbanked population can both inhibit uptake of e-commerce, and be a driver of innovation. The M-PESA system in Kenya enabled money transfer for the unbanked using mobile top ups. It has grown rapidly and spread to other countries. Popular e-commerce sites in the region, such as souq.com, and letstango.com provide for 'Cash on Delivery' payments[147]. Once online payment systems become established, this can become a driver to new services, tailored to local needs, eg basharacare.com, and awok.com.

Analysis of the domain name industry

Moving closer to the relevant market, the domain name industry, another popular analytical tool (Michael Porter's 5 forces) provides some insight into how competitive forces within the industry are evolving.

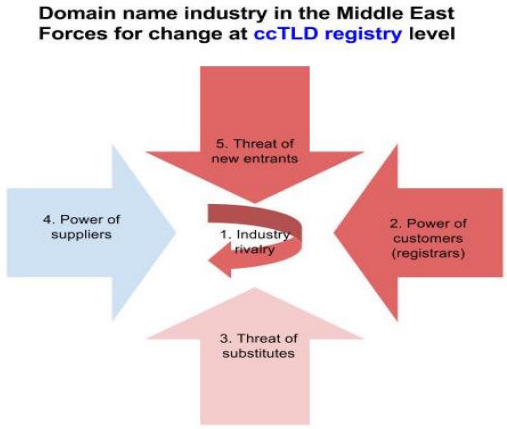


Figure 60

[147] Go-Gulf, "Most popular e-commerce sites of the Middle East", 26 March 2015 http://www.go-gulf.ae/blog/ecommerce-sites-middle-east/

Overall, we view the market for ccTLD registries within the region as hardening. Competitive forces are on the increase. The three areas where change is most keenly felt is in the threat of new entrants, the power of customers, and industry rivalry.

ccTLDs have traditionally felt well-insulated from competition, but not any longer. There is a wider choice of TLDs for end-users. New gTLDs have not enjoyed large registration volumes, and this is beginning to spark aggressive price promotions and marketing campaigns aimed at registrars. Although it is true that many local providers are not ICANN accredited, many will be able to resell gTLDs at lower prices than they can their local ccTLD. New gTLDs are thought to be likely to score higher in search engines. Geographic names, or very specific sectorial TLDs can be appealing to possible new registrant market segments.

These factors increase the relative power of registrars and resellers as customers, as they have greater choices to offer their end-users. We found a striking absence of registrar/reseller oriented marketing within the region, and this is likely to change if ccTLDs are to maintain their current market positions, or drive growth.

Changes in the international industry structure have resulted in registrars becoming registries, or at least becoming deeply linked to new gTLD registries (for example the rise of “white box” back-end providers for essential services). These closer relationships reduce incentives for registrars, who already have full ‘shelf space’, to carry ccTLDs which do not conform to their technical systems or operational processes, and/or have unclear policies and procedures that impact on the speed of certain domain name operations. “Different” is costly, and registrar margins on domain names not only tend to be low, but have decreased over the years. Registrars are contending with increased complexity and cost in supporting a large number of TLDs. A small number of global registrars hold extremely powerful market positions in certain markets due to the fact that they have commercial partnerships with local registrars or have become the owner of many local registrars. As a result, local registrars are apparently left autonomous in their management, but the strategic goals and TLD sales are dictated by the big registrars who own them.

Registrars remain the most efficient channel for registries to reach end-users because they can offer additional services over and above domain name registration, as well as more choice.

We view the threat of substitution as moderate. While it is clear that social media and apps provide low friction, and free-of-charge alternatives to websites and email, we view them as co-existing rather than a replacement for domain names. We found a total of 2.9 million domain name registrations – ccTLDs, gTLDs hosted in the region, and gTLDs with regional hinting (such as Arabic characters in the content). Growth rates are rapid particularly amongst ccTLDs. Users in our qualitative survey appeared to make sophisticated choices according to context, indicating a preference to use websites over social media for interactions with government or businesses. Innovations in payment systems tend to reduce barriers and increase choices for local businesses that wish to sell online.

Lastly, while there is no convenient place in the Porter model to express it, there is an increase in security concerns related to domain names. Phishing attacks are on the uptake within the

TLD space, as are worries relating to counterfeit goods, illegal content (such as images of child abuse) and denial of service attacks. For a ccTLD registry, these challenges require more dedicated resources – both human and financial – to cooperate with law enforcement authorities if a TLD wishes to expand its business, to provide a rapid response when enforcement actions are required, and to ensure that contingency plans are in place in the event of cyberattacks to the registry infrastructure and/or its database. This is an example, seen elsewhere in the Internet ecosystem, of drivers to 'bulk up'. In other words, the days of 'have a go' Internet services (including TLD registries) are ending, as stakeholders require more professional, reliable services across the spectrum.

Impact assessment

In any complex system, there are multiple, interdependent forces for change, and forces for stability.

Analysis of the wider environmental forces within the region illustrate some of the basic challenges – infrastructure, connectivity – which need to be overcome before the region can fulfil its potential, and also the political, security and economic reasons why investment in such infrastructure may not be a priority in some countries.

Worldwide, the domain name industry is undergoing a fundamental shift, which is likely to sharpen competition and increase expectations of professionalism. For ccTLDs in the region which desire growth, a focus on cultivating mutually supportive relationships with registrar channels, liberalising registration rules, automating (and standardising) technical and operational systems will tend to reduce costs and increase competitiveness in tougher markets.

Setting Benchmarks

Since 2006 EURid and many other worldwide ccTLDs have done extensive work in developing benchmarks for their own ccTLD operation. Regular participation in CENTR and ICANN country code Name Supporting Organisation (ccNSO) has helped them to become familiar with standards throughout the industry.

This section aims to underline the importance of setting benchmarks for the development of a TLD. Considering the maturity of the domain name environment outside the region, external benchmarks and insights might be inspirational for local registries (always respecting economic, cultural and other differences).

We are not going to set any benchmark regarding the so-called “registry status”. The registry “institutional” set up depends on various reasons. Even though almost every registry was historically part of an academic network, nowadays TLDs are highly competitive and there is a very dynamic market.

The legal status can be generically classified as:

- Private company
- Part of academic network
- Foundation
- Association
- Government agency
- Telecom operator
- Miscellaneous

At the dawn of the TLD era, the chances that a registry operated by a private company could better market its TLD and therefore, experience high-level registration volumes from the start, were quite high. However, at present, all worldwide TLDs registries have reached deeper levels of DNS literacy and consequently, are more capable to cope with the market challenges. We can indeed see TLDs operated by governmental agencies or not-for-profit companies that are contracted by governments that enjoy regular registration patterns while TLDs managed by purely private companies are lagging behind (like the famous case of the .tv country code that experiences uptakes only if it is sold in a bundle with more well-known gTLDs). The .eu top-level domain represents a special case study among the lately launched TLDs as it is a highly regulated TLD which has shown capacities to be both institutional and commercial.

However, should a registry wish to restructure its model, there are good examples that can be followed especially for registries operating in a regulated environment. We are showcasing two of them as example of best practices rather than benchmarks because in the process of revamping or setting up their organisation, these registries have worked hard to make the process as inclusive as possible.

NORID (.no registry manager)

“In 2002 a working group (in which Norid took part) under Norway's Ministry of Transport and Communications prepared a proposal for formalisation of the administrative model for the .no domain. The proposal was implemented in 2003 through a Domain Regulation, which in addition to RFC1591 specifies the framework for administration of the .no domain. Because the authorities only set the overall framework, a system is retained, where the registration service is operated within a private-law organisation instead of being part of the public-sector administration. This makes it possible to maintain the advantages of the current model in the form of efficiency, low costs and flexibility.” (Source https://www.norid.no/regelverk/rammer/forvalt-oversikt.en.html)

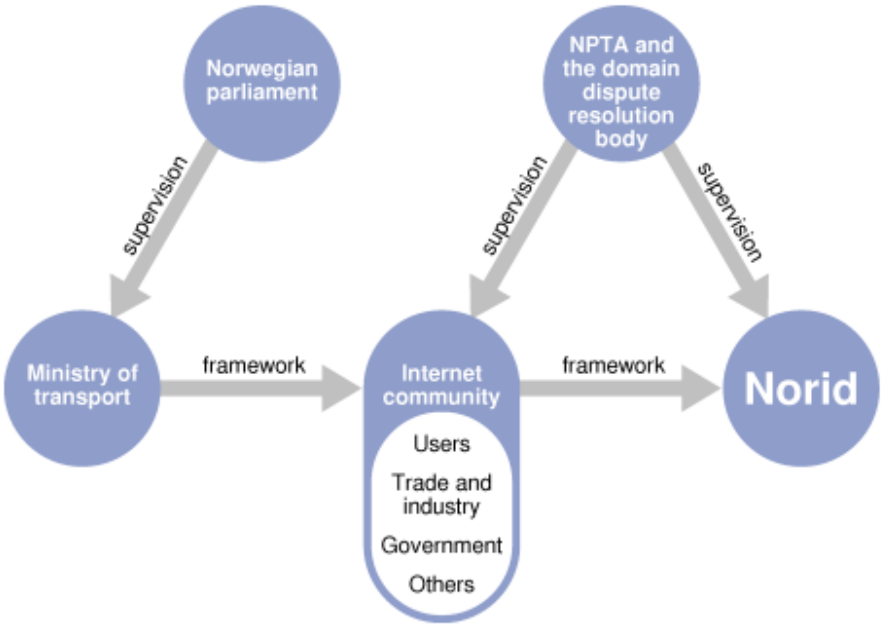


Figure 61

EURid (.eu registry manager)

In compliance with Article 3 of the EC Regulation 733/2002, EURid is a non-profit organisation, formed in accordance with the law of a Member State (Belgium) and having its registered office, central administration and principal place of business within the Community. EURid has 11 members, set out below. Its founding members (since 2003) were members of the European ccTLD registry community. At that time, the participation of Top Level Domain managers was crucial as these organisations had historical competence and experience in running a registry in the European environment. Since its launch in 2006, as was always its intention, EURid has steadily expanded and diversified its membership base so that now it includes key stakeholders from across the European business, civil society and technical communities. See below an overview of the obligations coming from the European Union Regulation on the .eu TLD.

It is clear from the aforementioned examples that both registry operators have created a local governance model that incorporates as much as possible the various stakeholders so that their voices can be officially heard and input taken on board. This approach is highly recommendable in environments which might have conflicting situations, most of them caused by the lack of a properly structured and regular dialogue. Even in the EURid case, the views of the various parties might not always be in synch, but the registry has demonstrated to be able to go the extra mile necessary to ensure that they are all taken into account and, if not taken on board, that a sound assessment of the different views is shared in a public and transparent way.

Independently from the registry status, we believe there are several dimensions for which it is valuable to look at benchmarks:

1. *Registry growth*
2. *Operating costs*
3. *Technical and network architecture*
4. *Business continuity, including reserve building process*
5. *Registry policies*
6. *The sales model*
7. *Domain name fees*
8. *Registrar satisfaction*
9. *Staffing policies*

We have deliberately excluded marketing and/or awareness actions as they will be extensively treated under the “Best practices” section. We also excluded points 1 to 4 because certain financial and operational benchmarks can be very subjective due to the specific registry framework. Therefore, we concentrated on points 5 to 9 and highlighted the benchmarks set by other registries without implying those should be followed in full by the registries and/or registrars of the countries of this Study.

Considering that domain name uptake is influenced by multiple factors that evolve over the year, benchmarks must be regularly re-assessed to make sure they do not become static, but are adapted to the changing DNS environment.

Registry policies

During the ccTLD regional organisations workshop – entitled “One size doesn’t fit all”) – held at the IGF meeting in Rio de Janeiro (Brazil) in 2007 the discussion focused on five ccTLD models that were presented and debated: The .za, for instance, was transferred in 2005, and that allowed the freeing of certain registry policies; the .jp registry manager, a for-profit body which uses its surplus for educational projects; the .cl, a university based registry, that has been able to reduce bureaucracy and deliver excellent services to its registrants. The conclusion is that different local needs require different solutions and therefore, benchmarks might be misleading in some cases.

The following matrix was developed by NORID, the .no registry, in 2005 and has served the entire ccTLD community to understand how certain policies might considerably contribute to the TLD uptake.

The axis show the correlation and impact of two central aspects that shape the domain name policy:

- Requirements for the applicant
    - Provide documentation that he has a right to the name
    - Have a local presence in the area of the ccTLD
    - Be an organisation
- Number of domain names allowed per applicant
    - Limited/Unlimited

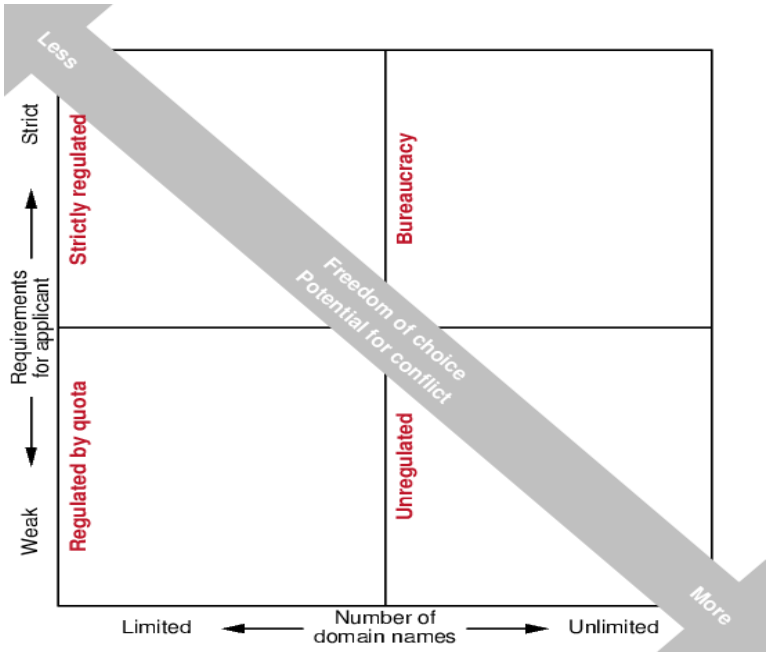


Figure 62

The mapping below reflects the status of the art in 2005 for many TLDs.

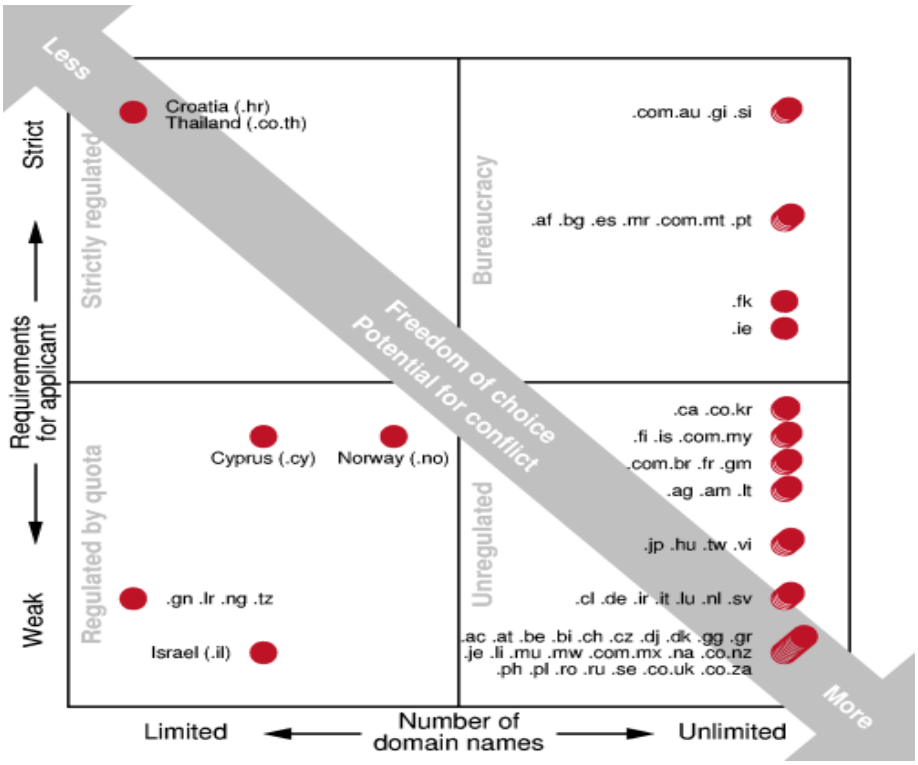


Figure 63

At the time the first assessment was made, the findings were summarized as follows:

- Few of the respondents were currently in the *strictly regulated* category. This reflected the general move towards more liberalized domain name policies that was taking place;
- Most respondents preferred a domain name policy with no limits on the number of names an applicant may hold;
- While the majority of the respondents allowed an unlimited number of domains per applicant, the degree of requirements for the applicant varied.
    - Some require the applicant to document rights to the domain name (*bureaucracy* category).
    - Majority in the *unregulated* category – did not require any documentation of rights. Some require either a local presence, or that the applicant was an organisation (or both), hence the spreading within the category.

Over the past decade many worldwide registries have moved towards more deregulated regimes, including the drop of any requirements for registrants (no link to the geographical territory where the TLD is based, no need to be incorporated as a company to be eligible to register domain names) and/or of the limit to register a certain number of domain names. While these initial rules were set up to allow a better management of the registry and prevent possible

speculations and/or abuses, the more the domain name market has grown, the more the TLD registry managers have become conscious of the need to introduce changes in their operational framework to ensure the competitiveness and accessibility of their extension. At European level, the most recent changes happened to .fr (France), .pt (Portugal), .es (Spain), .it (Italy), .lv (Latvia). After the policy adjustments, all registries enjoyed higher registration volumes, and some of them, like .fr, are still benefitting from it at a time the TLD market is shrinking.

To sum up, it would be valuable for all registries in the MEAC region to make an in-depth assessment of their policies and understand if the waiving of the current restrictions and optimisation of procedures could lead to increases in the registration figures. The assessment should be also made against the need to keep certain safeguard measures in place which might be stronger for specific reasons. The NORID model seems to suggest that registries that are placed in the bottom-right quadrant might benefit from higher growth. This conclusion might be questioned as there are many other factors that influence the registration volumes. Therefore, a registry that deregulates its market opening for unlimited registrations with little, if no requirements for the registrants may have the chances of an initial growth peak, but other efforts are necessary to keep the growth stable in the long-term.

The sales model

The two main models:

- Direct registration, meaning that anyone can register a domain name under a specific extension without going through any intermediary. The advantage of a similar model is that almost all the registration steps are fully controlled. The disadvantage is that the registry needs to deploy an infrastructure capable of dealing with direct end-users/registrants whom in many cases have limited technical capacities and therefore, require further support.
- Registry-registrar. This is the most common model nowadays. The biggest pro is that it offloads the end-user interface from the registry. At the same time, good relations between the registry and the registrars are of paramount importance as the registrar network is going to be the main – if not the only – sales channel for that TLD.

Many registries have both models in place, with higher registration fees for domain name registrations and renewals under direct registrations. Over the past decade we witnessed a progressive decrease of registries offering direct registrations both because they could not cope with the support and because they deemed more appropriate to leave this part of the business to the registrars who knew the market better in most of the cases. However, the rules set for the new gTLDs have caused a real turnaround of this approach, and more and more registries have now started to sell again domain names directly to respond to the higher challenges of the so called vertical-integration.

In any case, when deciding on the model to enforce or to switch to, it might be worth for a registry to determine if they prefer to opt for local or global sales and what best serves the local community, an element that should be the key point of reference for them.

Should a registry decide to go for the registry-registrar mode, we can safely state that the following elements should be seen as benchmarks, considered from the beginning and carefully planned:

- Privacy aspects (WHOIS)
- Services among parties
- Interaction with the Local Internet Community
- Prices of domain names and of the operations on them
- Level of bureaucracy

When surveying both international registrars and local registrars about the investigated region, but also at worldwide level, the following complaints came up:

- Domain name fee. Many registrars believe the fee charged by the registry is too high as they need to put a margin on top of it for the extra services they offer. While it is true that high registration fees do not support growth, it is also true that a very low fee may have a negative impact on the TLD profile as it will be seen as a cheap extension. A very low fee will also mean that the TLD might become subject to more speculations and eventually, abuses. Therefore, when setting the fee for registration and renewals, the registry should consult those who will be the main users of the TLD, and come to a compromise between the need to ensure operational resources for its management (including funds for contingencies) and the wish of an affordable fee.
- Would like to have more influence on policy/contractual terms. This is the most critical comment which is especially valid for registries that do not have advisory bodies formed by registrar representatives. EURid, the .eu registry manager, launched its Registrar Advisory Board in 2008 and, since then, all developments in its policies and procedures are discussed within this Board in advance. We believe that the establishment of similar bodies being crucial in the process of setting a qualitative circle of trust between the registry and the registrars.
- Bureaucracy (in case of paper based models). Over the past twenty years, the registrar community has fought hard against certain layers of pre-registration checks which include the need for an applicant to submit documents to prove their identity before or at the time they wish to register a domain name. Most of the registries have now introduced post-registration checks that allow a domain name to be immediately registered.
- Liberalisation of policies. Most of the registries have now deregulated their registration boundaries as much as they could. For instance, for second-level registrations the .es TLD had some limitations including requiring registrants to have a connection with Spain, but these restrictions were lifted in a multi-stage process completed by the end of 2005, at which point registrations at the second level of .es were open to anybody worldwide. That allowed an uptake of .es registrations that passed from few a hundred thousand to over 1,7 million with a continuous growth that is still ongoing.

- Accreditation process. Numerous registrars underline the complexity of the accreditation process for certain TLDs. They may require paper documentation, technical pre-checks, prepayment as guarantee for future domain name operations. The main benchmark is that no matter how many steps have to be completed by a registrar, the most important factor is for them to be clearly explained

Domain name fees

There is not a universal benchmark for setting the fee for new registrations and/or other operations on domain names. If we look at the CENTR membership, according to the finding of the latest statistical survey, published in early 2015, to which 37 members responded, the median wholesale price (1 year registration) was 7,4 euro. Data also shows that all those registries with over one million registrations have one-year registration fee under 10 euro.

Over the past 15 years, almost all those worldwide registries proactively engaged in regional ccTLD organisations have used the intelligence about domain name fees gathered through the yearly membership surveys to adjust their pricing model and make it more competitive. Therefore, we have seen a continuous decrease of the fees that registries charge to the registrars for new registrations and domain name renewals. The pattern has been to reduce the fees gradually, with few exception of registries forced to increase the fees again because of shortage of resources. The decrease of the fee is due both to the wish to make the TLD more appealing in the local and eventually international market, and also to the cost optimisation that many registries have implemented as soon as they became fully operational. As a matter of fact, the common paradigm followed by all newly delegated or transferred registries, those who deregulated the registration policies and those who decided to become more commercial has been to re-launch the TLD in the market with initial medium-high price which was diminished afterwards every two or three years once the registry business got stabilised and the registries knew the market segment they could count on.

With few exceptions, the cheaper the domain name fee becomes, the less the end-user benefits from this price reduction, especially when we are in the registry-registrar-registrant model. As a matter of fact, registrars tend to keep a rather safe margin at the top of the domain name fee they have to pay to the registry and the margin is not reduced beyond a certain threshold.

Below there are three screenshots of one of the largest worldwide registrars, 101domain.

Sample of prices of African TLDs on sale for simulated search for the domain name “eurid” (one year registration) in September 2015:

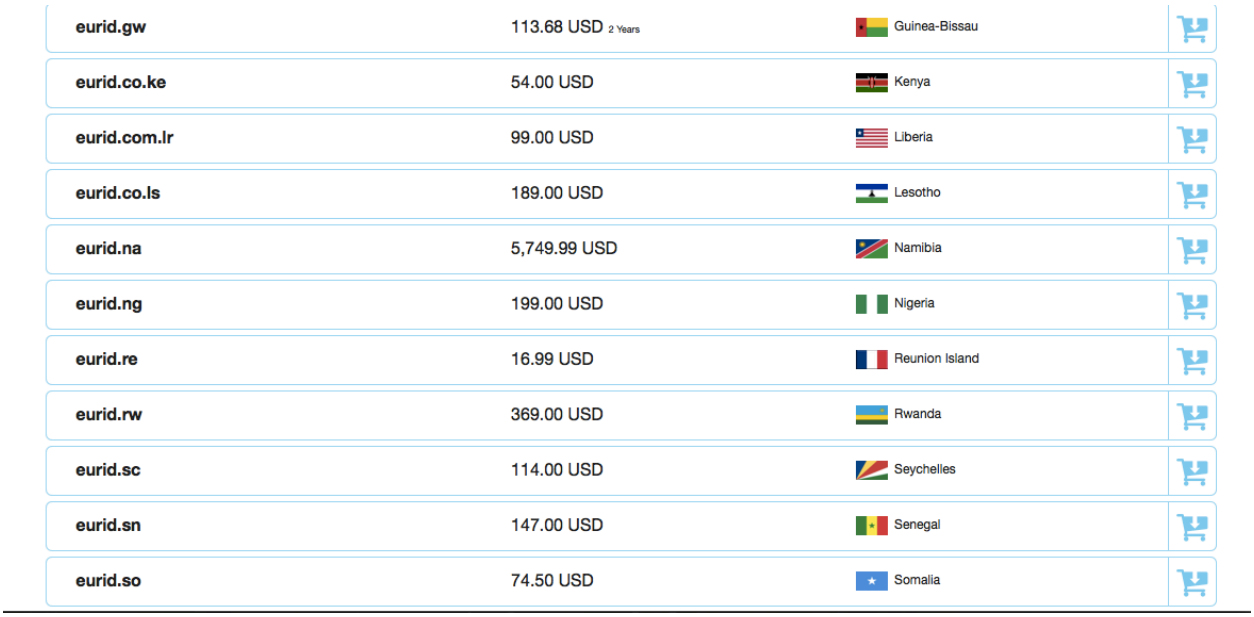


Figure 64

Sample of prices of Middle East TLDs on sale for simulated search for the domain name “eurid” (one year registration) in September 2015:

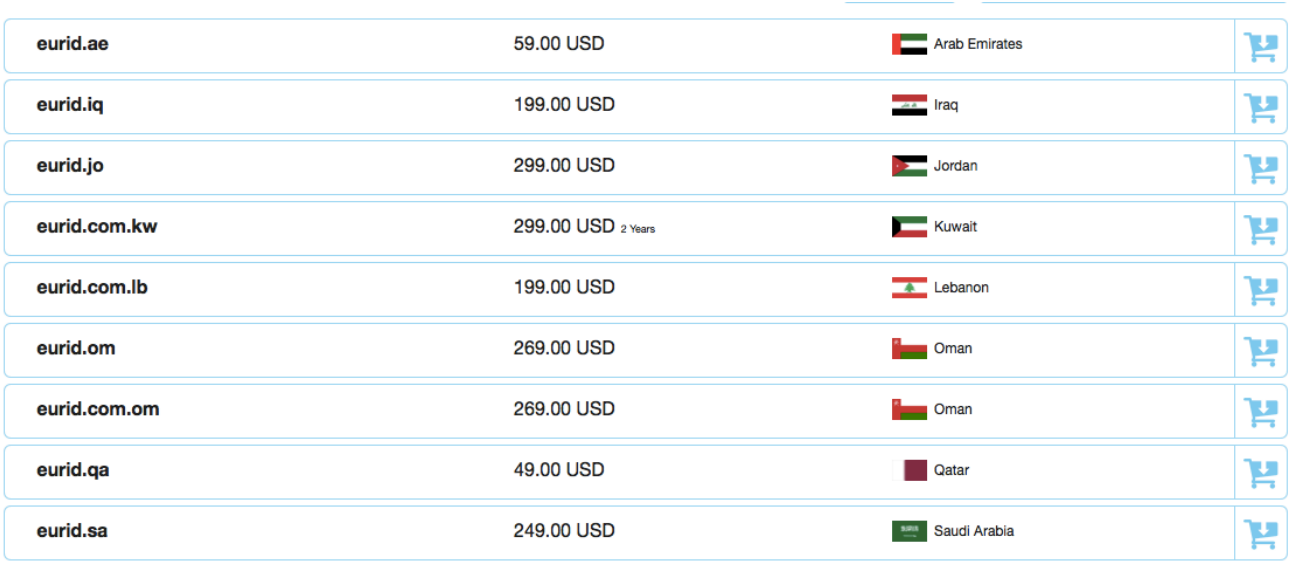


Figure 65

Sample of prices of European TLDs on sale for simulated search for the domain name “eurid” (one year registration) in September 2015:

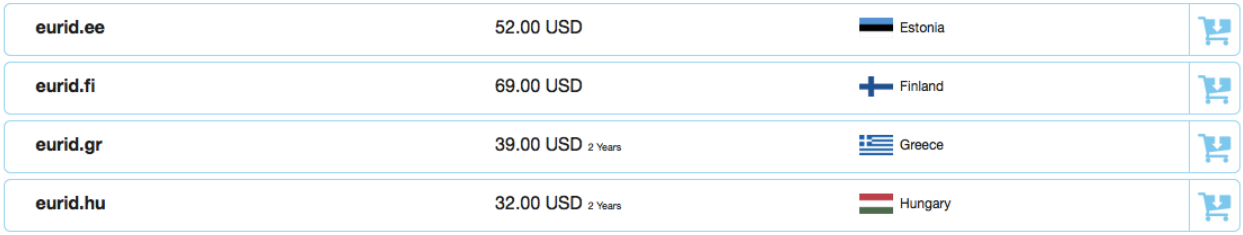


Figure 66

As we can easily see, the median sale prices of TLDs for the African and Middle East TLDs is much higher than the one for European extensions. This pattern has been observed for other registrars who are offering domain name registrations under almost all worldwide TLDs. In many cases, the higher prices are linked to special procedures with which the registrar has to cope on behalf of their client, but also they are due to the high fee applied by the TLD registry and the lack of promotional packages that have become a standard practice for many TLD operators.

The fees applied to other domain name operations – e.g., domain name renewal, trade (change of holder), transfers (change of registrars), registry lock, bulk transfers and so on – have also been subjects to modifications at the registry end. Several of them – mainly the so-called trade and transfer – have become free of charge while others were sensibly reduced especially by those registries that have to work at cost. For instance, when introducing the registry lock feature, EURid, the .eu registry manager, benchmarked those registries already offering it. Although the fee applied for this very special feature was on average above 50 USD per year (considering the manual work to ensuring the proper setting and maintenance of this extra security layer for a domain name), it was decided to introduce it at 10 euro fee per year, a price much lower than the market median, but in line with the registry expectations against the volume of .eu domain names served by this feature.

According to a report published in 2008 by the ICT Applications and Cybersecurity Division (CYB) Policies and Strategies Department Bureau for Telecommunication Development of the International Telecommunication Union, "*the main regulatory concern here for the government or a regulator is that fees get set through a transparent process that has general acceptance by the users of the registry and that the level of fees is reasonable. If this is the case, the registry's pricing policy will be essentially self-regulating. However as mentioned before, the Administration will need to have some way of ensuring that the registry, which is after all a monopoly, operates in the broad public interest and in accordance with the Administration's policy objectives.*"

To recap, nowadays the correlation between price and registration volumes is not strong, but when establishing the domain name pricing model any registry should look at the TLD fees of those they believe are their most direct competitors. Furthermore, as stated in the ITU report, they should strive to engage with their main stakeholders to make sure the fee is well accepted instead of being perceived as imposed by an organisation that in fact does have the exclusive ownership of the TLD.

Registrar satisfaction

Registrar satisfaction is an essential Key Performance Indicator of any registry based on the registry-registrar-registrant model. Over the years registries have developed several benchmarks regarding registrar satisfaction.

Since 2008 EURid has been developing a registrar satisfaction survey that helps the registry to understand the areas where to improve its services. The purpose of the yearly survey conducted by EURid via an external supplier is to review how customer perceptions and satisfaction levels have changed in the past twelve months, and also in general since the first survey in 2009, by asking question to the top-200 registrars.

In order to create some benchmarks, the questionnaire has remained almost identical to the previous versions, and aimed to measure how its top registrars view EURid in terms of:

- Having the .eu domain as part of the range of services they offer to their Registrars and the value that having a .eu domain can add to the customer;
- Establishing how many TLD extensions registrars typically manage;
- The quality of the relationship with EURid;
- Perceptions of communication with them;
- Overall registrar satisfaction with EURid;
- How registrars rate other top level domains such as the local ccTLD, .com, .net etc.

What would be the overall registrar satisfaction benchmark? The table below shows the average rates given by EURid top 200 registrars to the service provided by several TLD managers in 2013. According to the survey supplier a good overall satisfaction rate should be always over 60%.

		% Satisfied 2012	% Satisfied 2013	% point difference
Q20	.com	74%	78%	+4
Q18	.eu (satisfaction with EURid)	95%	97%	+2
Q19	.local (e.g. .fr, .it, .se, .uk, .de)	65%	66%	+1
Q24	.biz	49%	46%	-3
Q21	.net	68%	64%	-4
Q22	.org	68%	62%	-6
Q23	.info	57%	51%	-6

Table 14

Staffing policy

Over the past years registries have tried to create benchmarks regarding the number of staff they should have to manage the operations of the TLD. This is a very hard benchmark to set as there are millions of factors that influence it, from contractual obligations with the sponsoring organisations to the number of registrars and registered domain names, from the way domain name operations are handled (manually-automated) to the languages the registry should support.

There is not a perfect organisational model to look after, but there are indications that whenever a registry is part of a large institution or company, it would be preferable that key registry functions are separated and managed by staff that is accountable to the registry stakeholders.

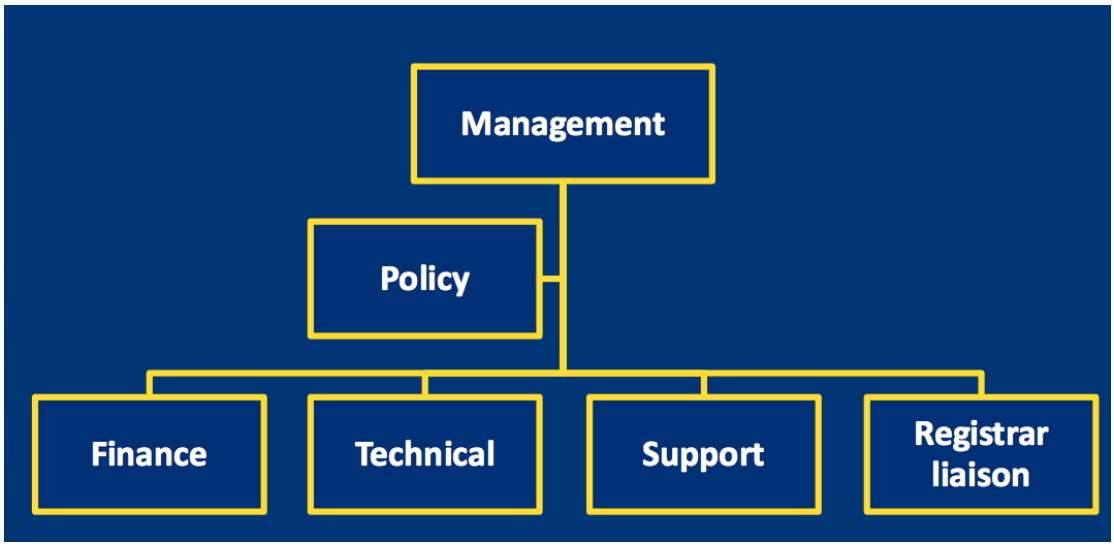


Figure 67

The median FTE per CENTR member at the end of 2014 was 18 employees, but as you can see from the chart below, the differences are quite relevant, and in some cases they are not linked with the number of registered domain names.

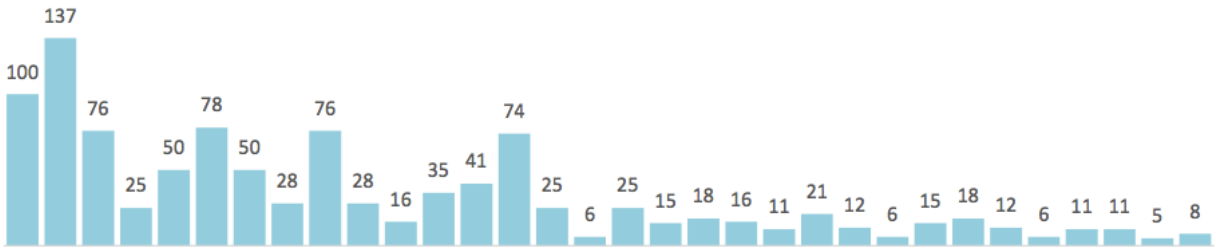


Figure 68

Therefore, we can safely conclude that while benchmarks for registry staffing policy are hard to set, the allocation of HR exclusively to the registry functions so that they can be skilled over time and become the true representatives of the TLD is essential.

Conclusion

There is no magic formula or key benchmarks to build a successful TLD registry. Certain worldwide registries have helped some registries of the region (e.g. the AUSregistry did it with the UAE and Qatar registries for the domain name registry software and services provider both for their ASCI extension and the IDN ccTLD) who were looking for technical and management support.

However, at the end, the possibility for a registry to grow lies entirely in its hands because only those effectively linked to the territory know how to best promote the TLD in that environment. The recommendation at this stage of this Study is for MEAC registries and registrars to start building benchmarks internally and then, eventually to compare them with other worldwide regional benchmarks.

VIII. Regional market potential for domains (3 year)

This Study has analysed the potential for growth in the region from numerous aspects:

- Historic registration figures in the region;
- ICT development within the region, based on infrastructure, economic factors, and skills;
- Experience of worldwide registration trends;
- Survey data of user preferences;
- New gTLD registration statistics; and
- The impact of liberalisation on ccTLD growth in the region.

The analysis leads us to believe that there is strong potential growth for domain name registrations in the region. Some countries are still challenged by basic access issues: low Internet penetration, high connection costs, slow speeds, low deployment of IXPs, lack of local Internet providers. Others are struggling with political unrest, war and displacement, and even the impact of economic sanctions. Therefore, it is not surprising that all aspects of Internet growth – including domain names – are negatively impacted in some countries, or that the domain name industry has still to experience the golden age which many other world regions have enjoyed between ten and fifteen years ago.

Nonetheless there are positive signs from the qualitative user survey. Users tend to check domain names before clicking on search results; many use direct navigation, typing domains into their browser to locate websites. While uptake of social media in the region is vigorous, users show discernment in the way that they prefer to interact with different groups. When interacting with friends, they prefer to use social media, but when interacting with their government or favourite retailer, they prefer to use a website.

We have seen from analysis of popular websites in the region that (other than in countries where some or all of these services are blocked) the same handful of websites appears in the top five of most countries – Facebook, the localised Google under the relevant ccTLD for the country or territory (eg google.com.eg, google.ae, google.com.pk), Google.com and YouTube. However, across the top 500 most popular websites of 20 countries from the region, there are more than 4,800 unique sites. This suggests that, further down the list, there are plenty of popular, local sites.

There are certainly challenges. We found that hosting services within the region is weak, and that the language of websites is still dominated by English – whereas at least 50% of users expressed a preference for other languages when interacting with various audiences online.

Domain name registrations do not exist in a vacuum. They are part of the Internet ecosystem, and cannot thrive without basic connectivity, and the presence of locally provided, value add services.

Further afield, when considering global trends, it should be remembered that domain registration figures are also linked to macro-economic factors. Correlations have been observed between stock market performance and domain name registrations, and therefore the downturn in global domain registrations that has been experienced during the years of the global financial crisis since 2009 may revive when the economic cycles recover.

The task of predicting future growth in domain name registrations for the MEAC region is challenging for several reasons. First, ccTLD growth rates for the region have been very high (between 20-40% per year) in the past three years. Meanwhile, worldwide growth rates in domain name registrations have diminished since the heyday of the mid 2000s.

Global annual growth rates of gTLDs between 2009-2014 have diminished from 10% (2009-2010) to 4.4% (2013-2014). One view is that growth rates are beginning to recover from a slump. Another view – equally plausible – is that the global market is now fairly mature and likely to sustain at a 3-4% annual growth or less.

Focusing on the region, earlier sections of this Study have highlighted the comparatively low numbers of domain name registrations across every country. With low numbers, it becomes comparatively commonplace to 'shift the needle' and see high percentage growth rates.

Of particular interest is the potential for growth seen in ccTLD registries that have recently liberalised. A current example is .tn, which in the eight months to August 2015 has grown from 19 000 to 28 000. If current rates persist until December 2015, there will have been 76% growth for .tn during 2015.

Even in registries that have not been liberalised so recently, we see sharp growth: in .ae, .qa, .ma. – all experiencing median double-digit growth in the years from 2009-2014.

Meanwhile, even in registries where the policies are strict, and some end-user prices might be high, there is strong percentage growth, a notable example being Saudi Arabia. Likewise, the .ir registry (which throughout the period has had open policies) has been growing at an average of 32% per year since 2010, although the signs are that growth in 2015 is slowing. It has to be highlighted that the .ir registry has been an active member of the CENTR and APTLD communities and has been a regular attendee at ICANN meetings. The ability and willingness to attend in person or remotely the CENTR assemblies and workshops, as well as the possibility to access the CENTR archives may have positively influenced the development of best practices that had been well tested in the European DNS environment.

Recognising that our ccTLD data for the past 5 years is not complete, we have only modelled future growth based on ccTLDs where we have historic registration data for more than two years.

We recognise that forces from far and near environments are just as likely to produce a swing towards greater conservatism, as they are for greater liberalisation. For this reason, we have produced several scenarios for future registrations.

In modelling the future growth, we have handled gTLDs and ccTLDs separately as follows:

Scenario 1 – low growth

- gTLDs worldwide experience decelerating annual growth at a rate of 0.5% per year from a baseline of 4% growth in 2014-2015
- ccTLDs in the region align with global annual growth rates (4% per year).

In this scenario, by 2019 there would be 2.9 million domain names (comprising ccTLDs and gTLDs hosted in the region), of which 1.2 million would be gTLDs and 1.7 million ccTLDs[148]

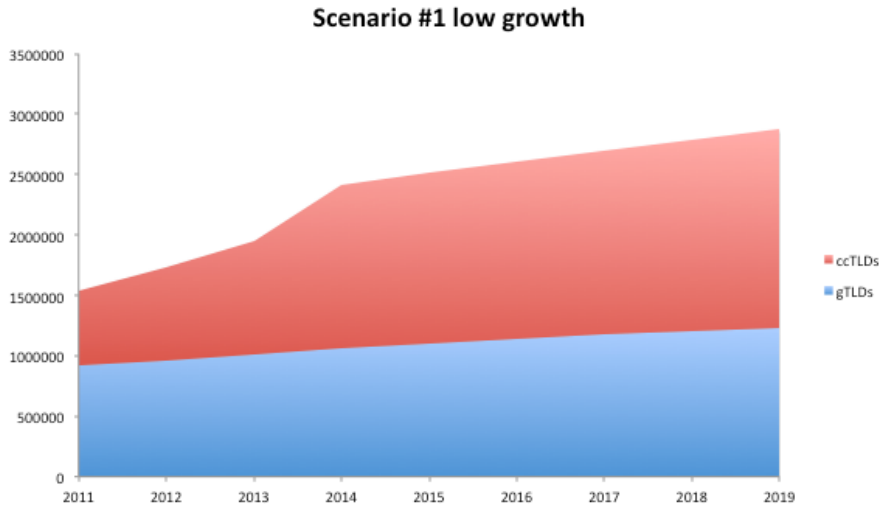


Figure 69

Scenario 2 – constant growth

- gTLDs worldwide plateau at 4% growth per year.
- ccTLDs in the region continue to grow at 22% per year (average 2011-2013)

[148] The current figure given in this report is 2.9 million domain names *associated with* the region. That is 1.5 million ccTLDs, 1 million gTLDs hosted in the region, and 0.4 million gTLDs hosted out of the region. These scenarios do not include numbers for gTLDs hosted out of the region.

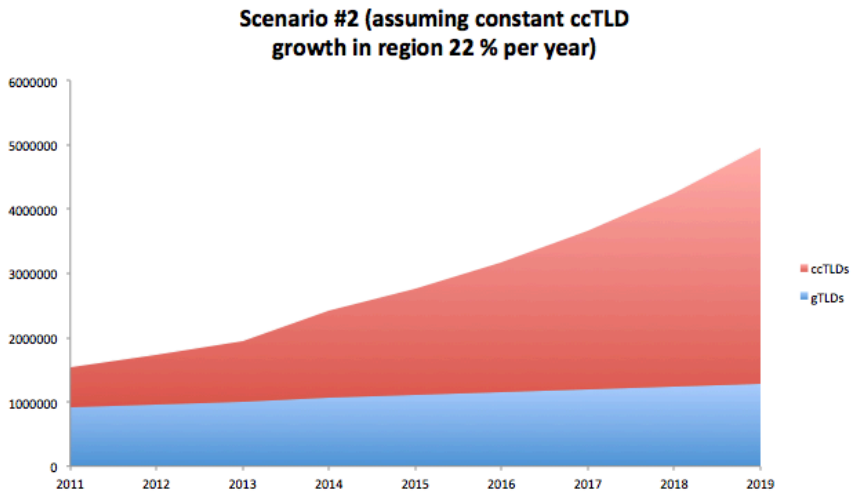


Figure 70

In this scenario, by 2019 there would be 5 million domain names in the region, of which 1.3 million would be gTLDs and 3.7 million ccTLDs.

Scenario 3 – accelerated growth

- gTLDs worldwide experience accelerated growth, adding a 0.5% growth for gTLDs each year, from a baseline of 4 % per year
- ccTLD experience accelerated growth in the region – based on an assumption of continuing liberalisation throughout the region (45% growth) and improvements in the socio-economic environment

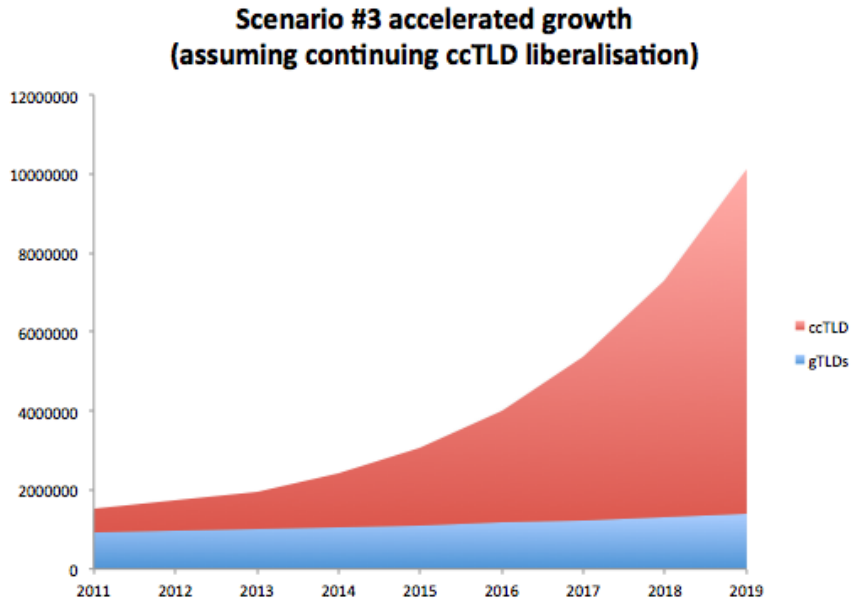


Figure 71

In this scenario, by 2019 there would be 10 million domain names in the region, of which 1.3 million would be gTLDs and 8.7 million ccTLDs.

We believe that scenario 2 is the most likely outcome, but we would like to stress that certain factors – some of them partially external to the region and some very unlikely to be foreseen – can make a huge difference in the medium and long-term local DNS industry deployment.

IX. Best Practices in the registry business

With the advent of the new gTLDs the domain name market has become more complex and challenging both for its operators and the end users. The competition we are seeing is multi-layer as TLDs not only have to cope with their industry peers, but also with the smart and fast evolution of the social media platforms and public email services. These allow you to be up and running online in few seconds while it might take hours or days to have your domain registered, well-configured and then, resolving into a website or emails. Furthermore, in many regions the TLD market is no longer living the golden age of the late nineties or the first decade of the third millennium, with clear signs of a possible flattening scenario when new domain creations will be lower than deletions (as predicted for the European region to happen as of 2017).

However, in the region of this Study we believe there is still a good potential for growth because of the following factors:

- The TLD market is not saturated and many end users (individuals/businesses) may soon like to be online with their own TLD;
- The registries and registrars can still work on expanding their markets and strengthen their positioning at local and regional level;
- The availability of local IDNs is an advantage for the region's registries and registrars as they are the closest to the possible customers and therefore, can be the best channel to ensure a truly multilingual experience.

Managing a registry is not just about implementing good technology. There are multiple factors that impact – sometimes considerably – the fortune of a TLD and/or a healthy DNS environment, such as good policy, industry model, organisational capacities, technology options, sale channels and the domain name branding. The following section aims to highlight some best practices that can help the growth of the TLD market in the region. The list is not meant to be exhaustive, but provides some tips for further action. We will illustrate best practices in the following areas:

- *Business models*
- *Registry policies*
- *TLD profiling*
- *Consumer awareness*
- *Registrar penetration and distribution*
- *Stakeholder dialogue*
- *Registry marketing initiatives*

Business models

During Spring 2001, the Council of National Top Level Domain Name Registries, CENTR, published the first ccTLD Best Practices guidelines, a paper that did not want to impose any paradigm, but that was suggesting some key principles when operating a TLD.

The Best Practice document defines the legitimacy of a ccTLD registry as being… "the Internet community" of a given territory. ... ccTLD registries thus seek authority from both public and private sectors in a given territory and act in the interest of both.

“Under these best practices guidelines a ccTLD Manager's authority comes from serving the Local Internet Community and from the unremitting affirmation by the Local Internet Community of that authority. The Local Internet Community, including governmental and other authorities, has a responsibility to support and protect the ccTLD Registry, and to assist the ccTLD Manager serving that community. Furthermore, a ccTLD Manager is entrusted with the management of a ccTLD Registry, and has no interest in the intellectual or other property rights in domain names. A ccTLD Manager should be equitable and fair to all eligible registrants that request domain names, should be competent and respond to requests in a timely manner, and should operate the database with accuracy, robustness, and resilience.”

Therefore, it was and is still clear that the primary objective of most of the ccTLDs is to cater for their local communities. However, over the past decade, we have witnessed a business change of some ccTLDs, sometimes as a consequence of a transfer process, or a major change in the structure of the registry operator, and/or of the necessity to deal with the changing TLD landscape. At present, the cost-recovery or profitability models are complemented and affected by many factors coming from the broader commercial world.

The traditional and widely adopted registry-registrar-registrant model is slowly shifting to a more hybrid scenario where registries can be registrars, registrars can manage part or all the registry functions, registries can create spin-off companies to act as registrars, registries can be service providers for registrars or other registries.

The .co TLD is a very special example. Since its transfer the new registry and the major changes it subsequently implemented in March 2010, namely the launch of registrations directly under .co and the liberalisation of the .com.co and .net.co extensions, which were until then only open to Colombian entities, things have been going very well for the .co ccTLD. Thanks to new policies, including the lack of restrictions and various potential double meanings which transcend mere reference to Colombia as a country (thus enabling the registry to position .co as an interesting alternative to the saturated .com TLD. For instance, .co can make reference to .COmpanies, .COmmerce, .COmmunities, .COnnections, …), as well as a strong and continuous marketing campaigns, .co has managed to make quite a buzz and is one of the fastest growing ccTLDs of the past five years. In this case, the chosen business model was quite aggressive, well supported by numerous worldwide registrars that are promoting .co as the leading TLD, and well managed at local level because thanks to the income mainly generated via international registrations the registry has been able to keep high service standards for the Colombian end-users.

At European level, the IIS, the registry manager of the .se TLD, has been always pushing its registrations via its own registrar. Therefore, as the common – but a bit outdated – belief is the more positive the TLD grows, the more people tend to register it, the .se registry has "encouraged" last minute registrations via its registrar whenever the true figures were quite low. Should this be the approach, it is worth to highlight that the payback time comes the following year when it will be harder to combat possible high deletion rates.

When planning which business model to adopt, the options of outsourcing or buying certain services externally can be considered. This is especially true at technology level. If other registries or companies are offering EPP customizable platforms, website content management, WHOIS interfaces, any registry or registrar should ask itself if it is profitable in the short and medium term to implement these tools by themselves, or if it would not be more valuable to have the entire service managed by a third party or bought at convenient fare. There are few, very few registries that – in the spirit of enhancing their own network security – have deployed their own anycast mesh. Most of the registries are buying anycast services by third parties which have become more and more competitive so this feature can be purchased at extremely low prices on yearly basis.

The initial best practice to apply when developing a sound business model is to set a clear strategy and even clearer and measurable goals. For instance, certain registries and registrars may opt for zoning their business at the beginning and then, expanding it when their organisation is more stable. However, at the end, the true best practice is that any registry or registrar must be able to keep pace with the evolution of the market.

Registry policies

EURid, .eu registry manager, is probably best known for being an extremely regulated registry operator that managed over the year to successfully grow and become a well-respected member of the TLD community. There are over five EC Regulations at the basis of the .eu TLD, one of them being a Regulation of the European Parliament and the Council, a true Great Wall of China to overcome with months needed to make a minimal amendment.

Now, according to a sort of ccTLD legend (and to the comments gathered during the Middle-East DNS Forum in 2014 and 2015), such a heavily framed and controlled registry should have never been able to penetrate any market and, above all, to survive the DNS dynamic environment. That has not been the case and the .eu is nowadays among the top-five ccTLDs.

The .eu registry has not only contributed to debunk a myth, but also has set a best practice which might not be perceived as entirely positive by industry peers. The best practice is that nowadays those registries that have their government as the sponsoring organisation do not have the life or long-term administration and management of the TLD for granted. It has become more and more common for governments to publish a call for expression of interests once every five or ten years for the management of the TLD. While this practice is putting stress on the

registry manager that has to compete with internal and external bids in order to keep its job, at the same time it works as an excellent motivation for the registry to make sure operations are well performed, all stakeholders are heard and high standards and KPIs are regularly met.

With reference to internal policies, any registry should design them according to the regulatory regime where they work. At the same time certain considerations and subsequent decisions are essential as they influence the business model and the future of the TLD. Among them, the eligibility to register the TLD (geographically restricted, globally open…), the registration procedures (the more automated they are, the better it is, and this correlation continues to be extremely valid), the acceptable use of the domain names and possible dispute resolution processes (always recommended as they enhance the accountability of all those involved in the TLD registration chain).

Registry governance mechanisms have recently become a topic of debate in the ccTLD communities as they are at the basis of showing that the ccTLD is managed through a consensus building approach. So far, the Brazilian multistakeholder model remains one of the most successful models. Created in 1995, the Brazilian Internet Steering Committee - CGI.br - coordinates and integrates Internet services in Brazil, promoting technical quality, innovation and dissemination of the use of Internet services. However, their model has become popular not for the number of tasks they are looking after, but for its representativeness. CGI.br has a total of 21 members divided as follows: 9 representatives from the various Federal Government bodies, 12 from the Civil Society, including the corporate sector, the third sector, the scientific and technological community and Internet experts. It is a very structured and well-balanced body which has gained respect both internally and internationally.

The .tz, Tanzania, registry operator followed the same path as the Brazilian one. Transferred in 2010, it has developed a multistakeholder model that is based on a Policy Committee that comprises its members, the regulator, the government and two governmental agencies. During a recent presentation at a ccNSO meeting, they stated that TZNIC is the outcome of a bottom-up consultative process of the national regulator.

At the CENTR community level, 59% of the last membership survey respondents identified themselves as a private company. However, this category includes companies contracted by governments to manage the TLD. See the distribution in the chart below.

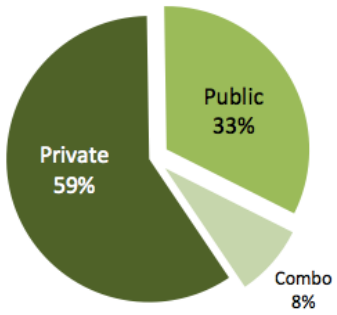


Figure 72

Consequently, we can safely assume that the consolidated best practice among TLD managers is at one end to build a governance mechanism that is truly representative of the various stakeholders and on the other to make sure that policies are well balanced and are set with a careful look at those introduced by their industry peers.

TLD profiling

In a landscape with over 1,000 new gTLD extensions, hundreds of ccTLDs and their IDNs, the way a TLD profiles itself is pivotal for its success. When considering a possible rebranding or a change of strategy, the first choice to be made is the strategy and objective to be pursued (increase new registrations, consolidate renewals, boost brand recognition, educate people about your TLD and increase awareness).

Profiling a TLD, rebranding or re-launching it, making it more appealing against the growing power and penetration of social media is not as easy as it seems. According to the report published by Digital Media Science and the Arab Social Media Influencers Summit (ASMIS)[149] regarding their 2014 findings on the trends and behaviours of Internet and social media users in the Arab world, social media channels have become incredibly popular in the Middle East and Adjoining Countries region, with 88% of the surveyed population sample using social media on a daily basis.

Therefore, marketing a TLD in the region of the Study has become tougher because Internet users can get email services as well as spotlight for themselves or their business via the most known social media platforms in few seconds, at almost no cost, and with the certainty of a great outreach through the automatic tools that the social media platforms are having at the disposal of people and businesses.

[149] http://arabsmis.ae/reports/ASMISArabicReport.pdf

However, a TLD operator should not be discouraged as there are good examples of rebranded TLDs that have managed to become successful at local or even international level. Once all is cleared at the governance, policy and procedure level, a TLD operator may start thinking how to promote the TLD.

Figure 73

If a TLD manager knows that the market is not saturated – and all markets of the region of this Study have still high growth potential, if there is room to improve domain name literacy in the country, if the registry can set competitive prices and ensure a good local and international registrar network to support new domain names, it might be time to evaluate a possible rebranding of the TLD.

As explained during one of the classes of the Middle East DNS Entrepreneurship Centre in 2015, the DNS history is well-populated with TLDs that have gone through massive re-profiling exercises: from AFNIC, the .fr registry - that launched a new logo at the time their policy changed few years ago - to the .me TLD new strategy based on selling .me internationally not as the extension for Montenegro, but as the English pronoun; from the .london that partnered with top testimonials in the UK capital to underline the demand of the brand new extension by British companies based in the city, to the probably most well-known case of rebranding, the .co TLD which is both the extension of Colombia, but also the best alternative (mainly in the United States) to the over-saturated .com option.

But branding should and could not be just doing cosmetics around the TLD logo or the meaning of the TLD. The Middle East region has the incredible advantage of having several TLDs available in the local language, most of which are still in their infancy from a development perspective. They have a huge potential to facilitate the access of those who are unfamiliar with most used languages as well as having the potential to support the creation of local language content and to ensure a truly multilingual experience to the end user. Those are elements around which the TLD operators can profile their TLD together with messages that stress the security and privacy aspects of registering a domain name and having business linked to it.

Consumer awareness

How much are consumers aware of the TLD market? The findings of the survey we ran in the region tell us that they are moderately aware.

It is a good and common practice of many TLD managers to conduct surveys among a sample of their current or possible consumers to understand the way they perceive the domain name environment, and more specifically the TLD they manage. The outcome of similar exercises is always valuable when planning new promotional campaigns as it might highlight end-user market segments or TLD assets.

Over the past years many registries have investigated consumer awareness. We report below two examples, one from the .it (Italy) registry and one from .eu.

The screenshot below is an excerpt of the study of the .it registry on the distribution of the .it domain names in Italy. The study was presented in 2011. The visual shows that .it domain names are mainly registered in certain regions of Italy, while there is an extremely low penetration in the southern region. Conducting a similar study can help any registry to understand the areas where they might wish to focus their promotional initiatives.

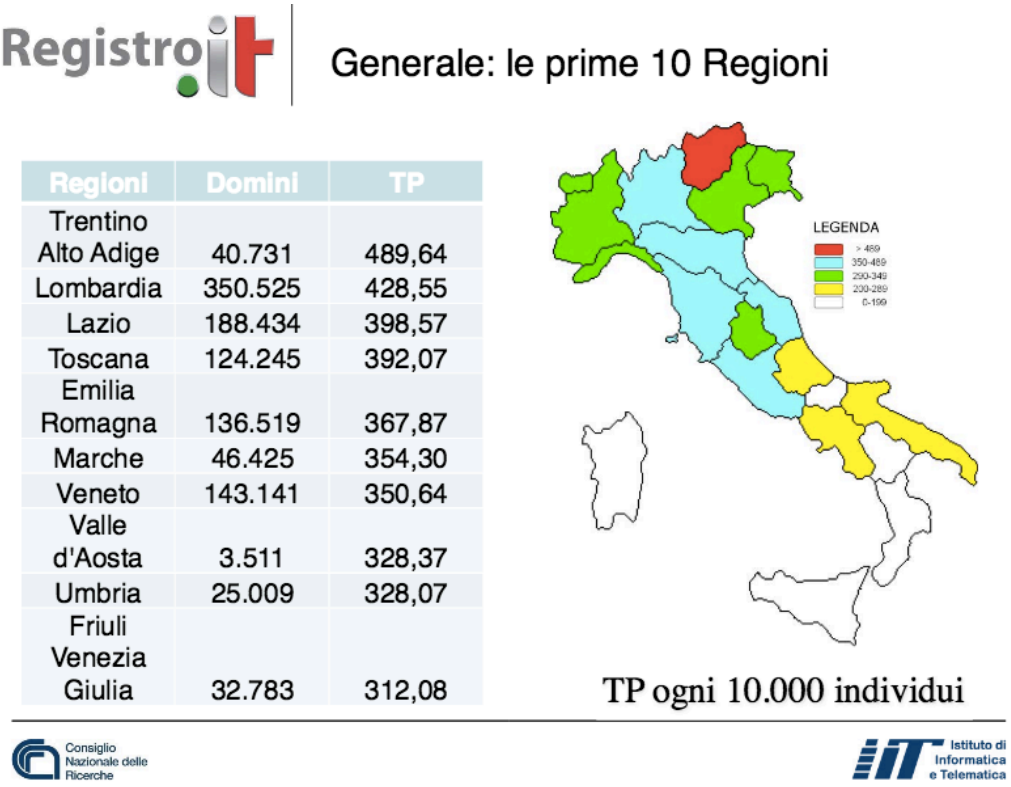


Figure 74

At the .eu TLD level, before deciding on key messages for possible .eu marketing campaigns, EURid, the registry manager, contracted an external company to survey a sample of the European population to better understand how the .eu is perceived and what are the values associated to it. The pie chart below highlights that the .eu brand is associated to innovation, reliability and emotion. As a consequence of the survey, EURid has worked to position the .eu as the TLD to register if you like to be seen as original, modern and open to business with Europe and the rest of the world.

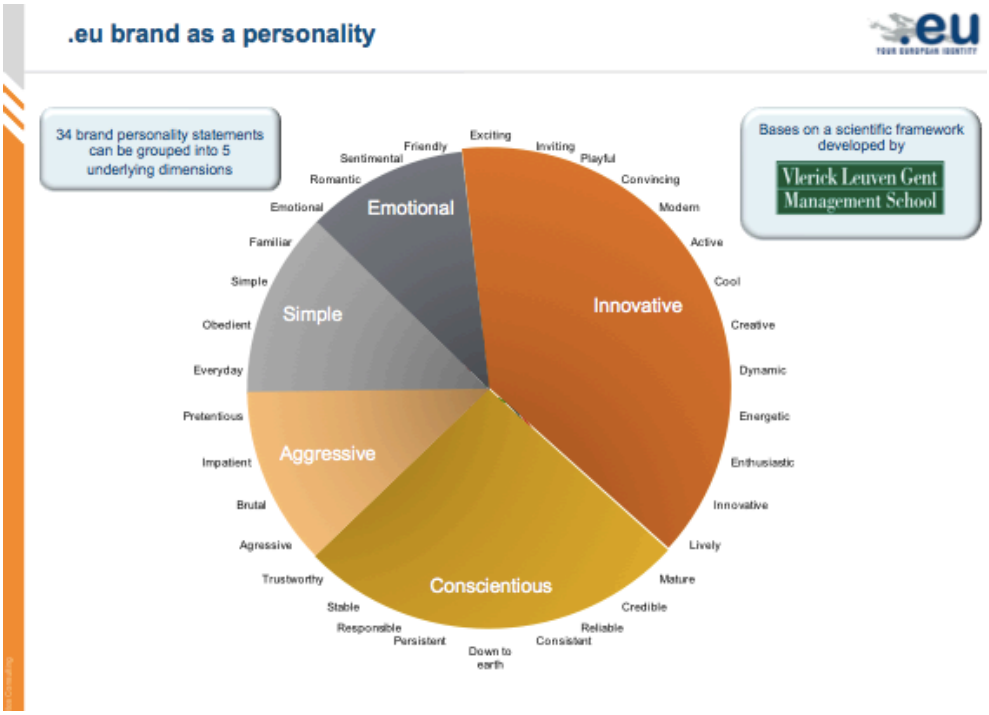


Figure 75

Registrar penetration and distribution

Registrars are and will continue to be the main avenue to promote any TLD. Most of them know the business very well, they are very close to the end-users, they are able to capture market trends earlier, and they have the flexibility to adapt faster to changes and challenges.

Most of the largest worldwide registrars have been in the industry for over 15 years. They are now able to influence consumer choices and make the fortune of a TLD.

The local and international registrar survey in the investigated region confirmed the high potential not only to have more registrars serving the Middle East consumers, but also that to improve the existing registrar penetration.

The latest data from the CENTR survey shows that there is a moderate correlation between the number of accredited registrars and the number of domain names registered under a certain TLD. The more registrars are accredited by a certain extension, the more domain names are likely to be registered within those registries that are working through the registry-registrar-registrant model. Therefore, we can safely state that if a ccTLD registry's objective is to try and enhance Internet development generally in the region, they should lower barriers to accreditation for registrars.

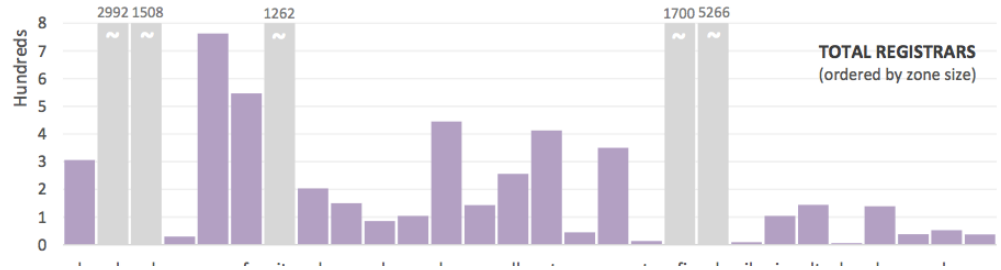


Figure 76

However, it is also true that in the past five years many big registrars have implemented strategies to consolidate many of their accounts. That is why the number of registrars has sensibly decreased for many registries.

Registries best practices stressed the importance of having not only a solid registrar base, but also a well-distributed registrar network. As a matter of fact, certain TLD penetration is lower in those areas where there are less registrars and/or resellers. EURid, the .eu registry, launched a yearly campaign for registrar recruitment, especially to increase the number of registrars in specific EU countries with low .eu registration figures. A brochure has been published to highlight the benefits of being a .eu accredited registrar and a reduced accreditation fee was promoted as part of the so-called “Starter Programme” to incentivize registrar accreditation.

Should a registry operator decide to work exclusively through the registry-registrar-registrant model, it is essential that it build a strong registrar network and make sure this network is regularly populated by new registrars who could reach out to more consumers.

Stakeholder dialogue

All registries and registrars have now learnt that proper, regular and transparent communications are essential to profile any TLD and/or service. However, communication should be both external and internal, both local and international, both timely and accurate, and targeted to the stakeholders you would like to reach out to.

They have learnt that communication is about listening to the industry peers and sharing information. That is why almost all worldwide registries and registrars are members of TLD or registrar organisations. Proactive participation in international forums as well as in local and regional meetings might be highly valuable. There are four ccTLD regional organisations (CENTR, APTLD, AFTLD and LACTLD). They regularly hold meetings where best practices are discussed and shared. One of the main advantages for emerging TLDs is that they can and should draw on the experiences of others.

As a matter of fact, a striking characteristic of ccTLDs is the variety of models for cooperation with local stakeholders, including civil society, and government. In 2007 CENTR and the other regional organisations presented an IGF workshop that focused on a comparative analysis of the various organisational models of the ccTLD registries, highlighting their challenges, weaknesses, strengths, and achievements. The presentations and outcome of that workshop could be the first best practice resource for local TLD managers.

Registry marketing initiatives

The CENTR ccTLD Best Practice paper quoted at the beginning of this section states that ccTLDs should:

- Ensure stability, accuracy, resilience and robustness of the Domain Name System;
- Perform the function of a trustee for a public service (in some cases of ccTLD registries this function is performed by the private sector);
- Establish and publish fair and objective registration policies;
- Act efficiently with regard to time and cost;
- Act responsibly and lawfully;
- Operate with technical competence;
- Abide by relevant Privacy and Data Protection laws.

The above list represents what we can define as the “historical and basic objectives” of a registry operator. Nowadays, in a market that is about to reach 2 000 extensions, many of them literally thrown in within the space of a few months, any TLD operator has realised that being in the root is not enough to enable the TLD to render good services at local and international level. Furthermore, while marketing initiatives were typical of new gTLDs, including those launched in the second and third round, for several years many ccTLD operators have decided to promote their extension. This could be motivated by the wish to increase the registration volumes, to complement rebranding actions and/or deregulation processes, to generate awareness and/or to support registrar efforts.

The first best practice and recommendation is to try to profile the TLD in the local market first and subsequently, at international level. It is true that there are special registries – like .tv, .co, .tk, .me – that are behaving and consequently, marketing themselves as worldwide TLDs, but at the same time it is true that the duty of any ccTLD is to cater for the local market. Furthermore, testing an initiative locally can help its launch globally.

There are many marketing strategies that have proven to be valuable and have been extensively tested. We will list some of them:

- Recruit high-profile websites or testimonials as “anchor tenants”. Having a local VIP or company using the TLD can be priceless because it is very likely to generate a chain effect

and push others to register and use a domain name under that TLD. EURid, the .eu registry operator, has been using testimonials for more than five years and has built a YouTube channel for showcasing them. The registry has also partnered with European sport players who can deliver a healthy and modern message to the young generations, who are more challenging to engage. The .it registry has done the same, as has the .london TLD that entered into agreement with several top firms in London to have them using the brand new extension immediately after its introduction.

- Strongly engage with registrars and create programmes that support their marketing actions. The CENTR Award winning EURid Co-funded Marketing Programme is one of the best known. It consists in setting aside part of the registration and/or renewal fee for each domain name and making it available later on to co-funded campaigns to promote the TLD. These campaigns are entirely managed by the registrar under the .eu registry supervision. Their costs can be reimbursed up to 100% provided that they meet certain evaluation criteria such as the proposal impact on the registration volumes, their implementation and the campaign visibility. The Co-funded Marketing campaign has now been emulated by at least five other registries.
- Online marketing campaigns. Currently, the Google Display network offers you the chance to reach the customer segment to which you wish to address your message. Many registrars and registries are using online campaign tools to promote TLDs, especially when there are special offers to highlight. For emerging registries and/or registrars it might not be the best method to boost registrations, but it has certainly proven to be effective in consolidating domain portfolios.

X. Conclusions and Recommendations

Conclusions

The DNS saying “one size does not fit all” well applies to the MEAC region. Countries across the region show marked differences in almost every factor which can influence Internet development: economic performance, literacy, language, ease of ‘doing business’.

Some countries in the region are struggling with basic Internet infrastructure, with low Internet penetration rates, high prices, and slow speeds. Overall, there are few Internet Exchange Points, which have proven effective in reducing costs and latency in other regions. In countries where basic infrastructure is weak, people spend less time online per day, and use the Internet mainly for social reasons rather than business, compared with other countries where infrastructure is stronger. Region-wide, more than 30% of Internet users in the region spend fewer than 3 hours online per day.

There are strong forces for conservatism across the region, seen in strict laws affecting Internet content (and liability of intermediaries), and in some domain name registry policies. In some cases, legislation and regulation affects individuals’ hosting choices. Overall, the market for hosting services in the region is weak, with only 5% of popular sites hosted locally.

It is clear, however, that people in the region enjoy online life, and use the web in similar ways to their global counterparts: they upload photos and videos, they enjoy interacting with their friends on social media. Despite the popularity of social media, users prefer to interact with their government and businesses via websites. More than 30% of users in our survey said they had uploaded content to websites (rather than social media) in the past twelve months.

There are clear gaps between the language preferences expressed in our end-user survey and the languages associated with web content. 70% of web content in the region is in English language (compared with 55% globally). Many users in our survey are able to switch languages online according to context, but 50% do not. There are strong preferences for using local languages when interacting with friends and government.

The outlook for domains in the region is positive: Internet users are more likely to use domain names for direct navigation than their global counterparts, and nearly all users check the domain name before clicking on search results. At the same time, there are many challenges for consumers who wish to buy domains – lack of local providers, and value added services, limited choice in payment options (especially for the unbanked). If registering domains is difficult or costly, it is natural that many users will choose the faster, cheaper and more convenient channels, eg setting up social media profiles.

Multiple factors contribute to domain name patterns in the region, including policy, pricing, operational costs, technical architecture, sales and marketing and staffing. Feedback from local and international registrars about the region's ccTLDs is that fees are too high, policies are viewed as strict, and registration processes bureaucratic and slow, although some of the ccTLD registries challenge this view as inaccurate. These perceptions, plus economic sanctions in some countries, discourage some international registrars from participating in the region's markets. Overall, competition in local registrar markets is weak, resulting in poor choice and high prices for end users.

The competitive environment for ccTLD registries is hardening. Worldwide, domain name registration volumes have been flattening in the past three years. In the wider market, some ccTLDs have been tending to reduce registry fees and deregulate their policies to foster greater TLD uptake. Against this trend, the region shows strong percentage annual percentage growth, even in registries with strict registration policies. Growth is even more substantial in registries which have deregulated (e.g. .tn, .ma).

The MEAC region's domain market is not saturated, and current usage trends show a key role for domain names in the ecosystem. Penetration of domain names per 1 000 inhabitants is low – only 3 ccTLDs in the region have higher than 10 domains per 1 000, compared with 100-300 per 1 000 in comparator countries. According to our projections, the number of domains in the region is likely to double by 2019 (constant growth scenario).

Preferences for local languages signal potential for IDN growth in the region but all interested parties should work together to guarantee universal acceptance of IDNs.

High level recommendations

For the wider Internet ecosystem

- **Basic Internet access** issues need to be given priority.
- All stakeholders need to work on **strengthening local hosting markets**.
- A focus on ways to **enhance local language content** will benefit at least 50% of users who prefer to use their local languages online, as well as the majority of the population who are not yet online.
- Policies and investment should focus on **supporting ecommerce**.

For the domain name market

- There is room for diversity in business models and registry structure.
- **Local TLD operators need to set a clear strategy and measurable goals**.
- **Liberalising policies**, making domain names more accessible and **lowering fees** – as well as make them more transparent and linear – can drive growth, but a sustained approach is needed.

- Establishing **a strong circle of trust with all local and possibly international stakeholders** is of paramount importance for TLD operators.
- **Enhancing registry automation** and opening to international registrars is essential to ensure long-term growth.
- Rebranding a local TLD can support a change in policy and revitalise the TLD.
- **Participation in ccTLD regional organisations** or DNS Centres benefits emerging registries.
- **Improving IDN literacy and benefits**: Registry operators should design plans to cooperate with service providers for facilitating the IDN universal acceptance as other registries have done (e.g., KISA, the South Korean registry manager, for .한국).
- Enhancing **the TLD registry role in supporting the local communities** and providing Internet education can be effective both for profiling the TLD manager and for strengthening links with end-users. Actions such as developing a naming charter for government (e.g. .tn) can help raise awareness of the TLD at institutional levels.
- Registrar relationships are key (in a mixed or registry-registrar model). Consider **starter programmes and incentives to on-board new registrars at local level**.
- Testimonials, **registrar marketing schemes** and online marketing can all improve uptake.
- International registrars can intensify local competition, lowering retail prices and improving uptake.
- Registrars should consider **promoting domain names together with add-on products** (e.g., forwarding services, services designed to assist customers in building websites).

ANNEX I: Registry Factsheets

Afghanistan

Country	Afghanistan
Top-level national domain administrator	Ministry of Communications and IT
Top-level national domain administrator Type of organisation	Governmental
Registry Operator	Afghanistan Network Information Center (AFGNIC)
Type of Organisation	Public
Operational since* ** In case of transfer, transfer date added below.*	October 1997 January 2003[150]
Number of registered domain names	6529 (end of August 2015)
Domain name usage statistics	Information not available.
Domain name renewal rates	Information not available.
Domain name fees to the registrars	The end-user fees are presented on the AFGNIC website pricing page[151]. All fees are higher for international registrants.

[150] http://www.iana.org/reports/2003/af-report-08jan2003.html
[151] http://nic.af/en/page/what-we-do/afgnic/pricing

Average domain name price in the local market	The AFGNIC[152] site mentions the following: ***"4. Fees and Payment*** *a) The licensee is aware that the registrar acting on his behalf must pay the initial registration fee and the renewal fee according to the agreement between the registrar and the .af DNS authority.* *As of November 2002, the registration fees are as follow:* *b) The registrar has access to the computer system of the .af DNS authority in order to verify the status and expiration date of the domain names that he manages. The registrar is responsible for the timely advice to the licensee that the license for his registered domain names is due to be renewed.* *c) The .af DNS authority is not responsible for the registrar's non-payment of registration or renewal fees, which may result in the non-registration or cancellation of a domain name (even if the licensee has paid the registrar)."*
Does the registry offer an IDN	No[153]
If so, which script(s), are available	No
Is there an IDN equivalent ccTLD?	No
Registration model	Direct registrations via the registration platform[154] or via the accredited registrar. The Domain Policy[155] mentions under "1. Definitions": *"the registrar" means the organisation or undertaking that enters into a non-exclusive registrar agreement with the .af DNS authority and obtains from the .af DNS authority the right*

[152] http://nic.af/en/page/what-we-do/afgnic/domain-policy
[153] http://nic.af/en/page/what-we-do/afgnic/domain-policy
[154] http://nic.af/Content/files/Registrationform.pdf
[155] http://nic.af/en/page/what-we-do/afgnic/domain-policy

	to apply for the registration and renewal of domain names under the ".af" domain on behalf of its clients but for its own account. As of November 2002, UNDP Afghanistan office in Kabul is one authorized registrar;"
Number of accredited registrars	One accredited registrar: The UNDP Afghanistan (http://www.af.undp.org/)
Registrar accreditation process	Information not available.
WHOIS availability	WHOIS.nic.af
Website language/s	English, Dari, Pashto
Are policies and procedures available on the registry website?	Yes, these policies can found at the following link : http://nic.af/en/page/what-we-do/afgnic/domain-policy
Registrant restrictions/special policies?	Registration is made directly at the second level, or on the third level beneath various categorized subdomains at the second level.[156] According to http://nic.af/en/page/what-we-do/afgnic/domain-policy : *"**12. Required Documents.** The registrant must bring the following documents for the registration of domain names under .af domain.* *1. If the registrant wants to register a domain name ending in ".com.af"* *a. Trade license / Business authorisation or approval from the Ministry of Commerce for any other Ministry or body responsible for registration or licensing of such bodies.* *2. If the registrant wants to register a domain name ending in ".org.af"* *a. Approval of registration documents from the ministry of planning for verification of the specified organisation or any other Ministry or body responsible for registration or licensing*

[156] See pricing site for further information: http://nic.af/en/page/what-we-do/afgnic/pricing

	of such bodies."
Are there marketing activities towards registrars?	Information not available.
Are there marketing activities towards registrants?	Information not available.
Is DNSSEC offered?	Yes[157]

[157] http://stats.research.icann.org/dns/tld_report/

Egyptian Registry - .eg

Country	Egypt
Top-level national domain administrator	Egyptian Universities Network (EUN)
Top-level national domain administrator Type of organisation	Academic
Registry Operator	Egyptian Universities Network (EUN)
Type of Organisation	Academic
Operational since (in case of transfer, insert date of transfer)	1991
Number of registered domain names	The total no. is 8264 Domains as of 1/9/2015
Domain name usage statistics (if available)	
Domain name renewal rates (if available)	Approximately 80%
Domain name fees to the registrars (if available)	This fees for international entities not resident in Egypt: $200 for second level domain $60 for third level (2 letter) $40 for third level (3 or more letter) http://www.egregistry.eg/Picing%20Scheme.html The fees for the national entities: ≈$125 for second level domain ≈$37 for third level (2 letter) ≈$25 for third level (3 or more letter)

Average domain name price in the local market (if available)	
IDN offer	Separately managed by NTRA
If IDN offer, which script(s), if available	
IDN equivalent at top level	
Registration model (direct registrations, registry-registrar-registrant, mixed model)	Registry- registrar, but direct registrations also seem to be accepted (downloading registration form from website http://www.egregistry.eg/Registration%20Procedures.html
Number of accredited registrars (if available)	3 international registrars: LINK DOT NET TE Data Vodafone http://www.egregistry.eg/Registrars.html in Arabic (http://www.egregistry.eg/Usuarios.html)
Registrar accreditation process (if available)	Not yet applicable, the relation between the registrars and the registry is not documented

WHOIS availability	Availability checker on website. http://lookup.egregistry.eg/Default2.aspx Registered domain details are not published 
Website language/es	Arabic, English
Policies and procedures availability	Yes, in Arabic and English http://www.egregistry.eg/Roles&Policies.html
• Registrant restrictions/special policies	Terms for second level domain name registration: • The registering institution should hold the Egyptian nationality. • The institution should have residence in Egypt or at least have a local representative / an agent in Egypt. • The institution should have a trademark registered in Egypt regionally or internationally. • The institution should provide the trademark possession documents.

	• The registered name shouldn’t be a name of second level domain that the EUN reserves. • Second level domain registering is not assigned for individual names. • Domain name selection follows the rules applied on selecting the domain name in general. • Documents required should be enclosed according to the nature of institution desiring to register. • The registered second level domain should be used within the institution's activities only. That domain shouldn't be sold to any institution unless it is related to the registered institution. Second level domain registering follows same rules of domain registering under Egyptian domain (.eg).
Marketing activities towards registrars	None
Marketing activities towards registrants	Applicable
DNSSEC	Will be implemented in Oct. 2015

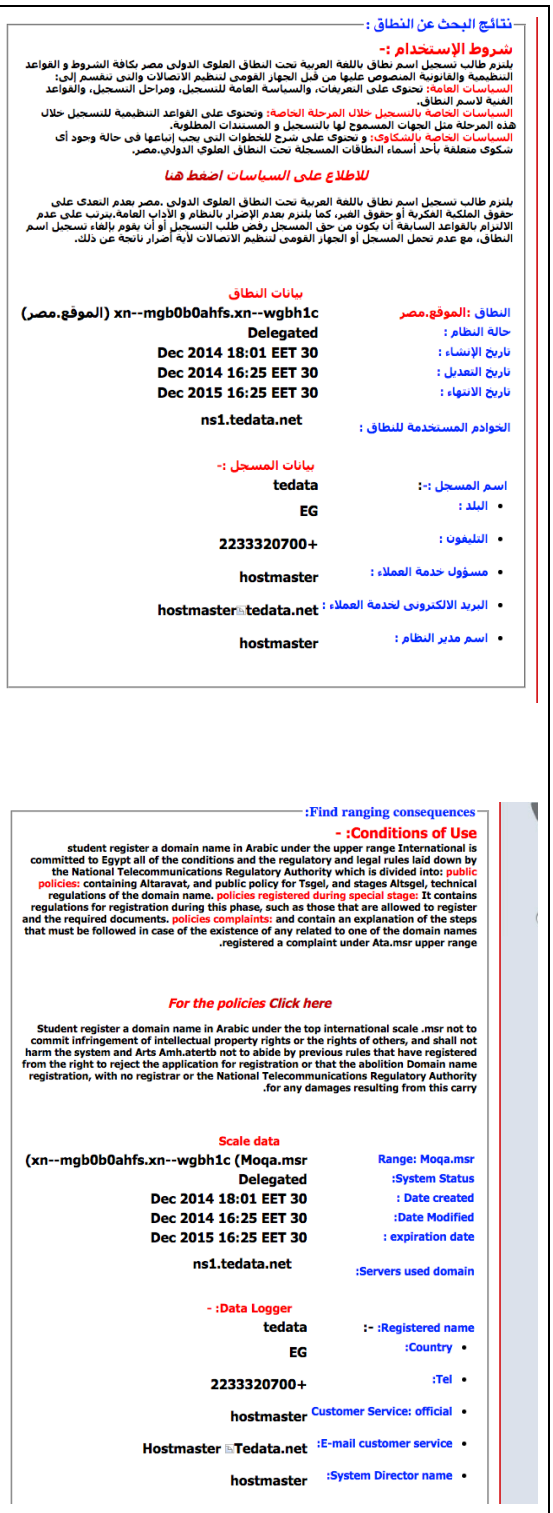
Egyptian Registry - .masr

Country	Egypt
Top-level national domain administrator	Egyptian Universities Network (EUN)
Top-level national domain administrator Type of organisation	Academic
Registry Operator	National Telecommunications Regulatory Authority
Type of Organisation	Public
Operational since (in case of transfer, insert date of transfer)	2010[158]
Number of registered domain names	Dec 2014 1959 Dec 2013 3173 Dec 2012 747
Domain name usage statistics (if available)	58% of the registered domains under dotMasr have active name-servers
Domain name renewal rates (if available)	
Domain name fees to the registrars (if available)	3% of their Domain Name sale Revenue
Average domain name price in the local market (if available)	100 EGP/ year ≅ 12.82 USD /year
IDN offer	Yes, since 2010. Landrush originally planned for 2011, delayed because of Arab Spring, and eventually launched in January 2013

[158] http://www.dotmasr.eg

If IDN offer, which script(s), if available	Arabic
IDN equivalent at top level	مصر xn—wgbh1c
Registration model (direct registrations, registry-registrar-registrant, mixed model)	3R Model Registry- Registrar – Registrant
Number of accredited registrars (if available)	3 Registrars: Supreme Council of Universities Network (EUN) for government and educational authorities TE-Data Corporation Link Data Center[159](Arabic)
Registrar accreditation process (if available)	Technical requirements, Full automated (online) process including payment
WHOIS availability	Yes – example output (in Arabic and translated to English):

[159] http://www.dotmasr.eg/FAQ_Ar.aspx

	
Website language/es	Arabic, English

Policies and procedures availability	Yes, in Arabic http://www.dotmasr.eg/Files/08012012/GeneralPolicy.pdf
Registrant restrictions/special policies	Natural persons and legal persons are allowed to register[160] There is a dispute resolution mechanism[161]
Marketing activities towards registrars	The registry reports[162] that marketing campaigns have been put on hold due to political circumstances in Egypt.
Marketing activities towards registrants	The registry reports[163] that marketing campaigns have been put on hold due to political circumstances in Egypt.
DNSSEC	Enabled and supported

[160] http://www.dotmasr.eg/FAQ_Ar.aspx
[161] http://www.dotmasr.eg/Files/DisputeResolution.pdf
[162] http://www.eurid.eu/files/publ/IDNWorldReport2014_Interactive.pdf, page 108
[163] http://www.eurid.eu/files/publ/IDNWorldReport2014_Interactive.pdf, page 108

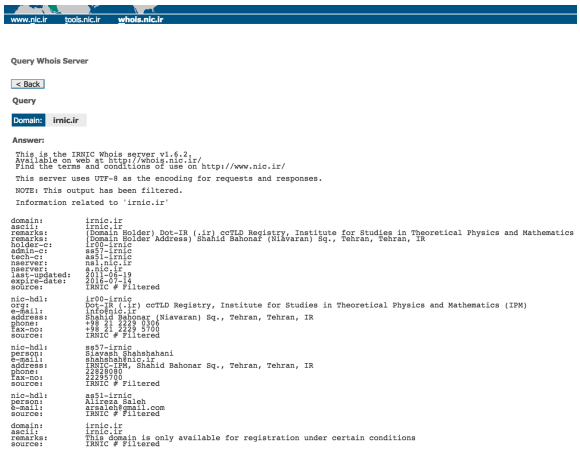
Islamic Republic of Iran

Country	Islamic Republic of Iran
Top-level national domain administrator	Institute for Research in Fundamental Sciences
Top-level national domain administrator Type of organisation	Academic
Registry Operator	IPM / IRNIC
Type of Organisation	Academic – part of the Institute for Research in Fundamental Sciences (IPM)[164]
Operational since* ** In case of transfer, transfer date added below.*	1994 (according to IANA record)
Number of registered domain names	.ir (July 2015): 665629 DotIran (IDN) .ایران (July 2015): 2435
Domain name usage statistics	Information not available.
Domain name renewal rates	Information not available.
Domain name fees to the registrars	1 year – 160 000 Iranian Rials or €20 through a foreign reseller (second level registrations). Pre-payment model – discounts available (25% - 75% depending on volume and amount of deposit lodged)[165] Domain transfer fees : 80 000 Iranian rials;

[164] http://www.ipm.ac.ir/
[165] http://www.nic.ir/applications/Foreign_Reseller_Agreement.pdf

	€10 if new address is foreign.
Average domain name price in the local market	Information not available.
Does the registry offer an IDN	.ایران Opened 2014. Prior to that registrations were offered at the third level under ایران.ir since 2006 Registrations were transferred over to the iDN ccTLD from 2014
If so, which script(s), are available	Arabic script
Is there an IDN equivalent ccTLD?	.ایران
Registration model	Resellers. Contract of registration is between the registry and registrant; reseller acts as agent of the registrant.
Number of accredited registrars	50 domestic 8 international
Registrar accreditation process	Resellers act as agents of registrant. Difficult to determine the accreditation process – there is an agreement[166] which contains certain obligations (eg informing registrants of legal obligations; ability to use the reseller control panel) but not much evidence of accreditation criteria or process. Note that IRNIC is currently updating its processes and has suspended new reseller accreditation in the meantime.[167]

[166] http://www.nic.ir/applications/Foreign_Reseller_Agreement.pdf
[167] http://www.nic.ir/How_to_Become_a_Reseller

WHOIS availability	Yes – website – example output:  www.nic.ir tools.nic.ir whois.nic.ir Query Whois Server < Back Query Domain: irnic.ir Answer: This is the IRNIC Whois server v1.6.2. Available on web at http://whois.nic.ir/ Find the terms and conditions of use on http://www.nic.ir/ This server uses UTF-8 as the encoding for requests and responses. NOTE: This output has been filtered. Information related to 'irnic.ir' domain: irnic.ir ascii: irnic.ir remarks: (Domain Holder) Dot-IR (.ir) ccTLD Registry, Institute for Studies in Theoretical Physics and Mathematics remarks: (Domain Holder Address) Shahid Bahonar (Niavaran) Sq., Tehran, Tehran, IR holder-c: ir00-irnic admin-c: as57-irnic tech-c: as51-irnic nserver: ns1.nic.ir nserver: a.nic.ir last-updated: 2014-05-19 expire-date: 2014-07-14 source: IRNIC # Filtered nic-hdl: ir00-irnic org: Dot-IR (.ir) ccTLD Registry, Institute for Studies in Theoretical Physics and Mathematics (IPM) e-mail: info@nic.ir address: Shahid Bahonar (Niavaran) Sq., Tehran, Tehran, IR phone: +98 21 2279 0306 fax-no: +98 21 2279 5700 source: IRNIC # Filtered nic-hdl: as57-irnic person: Siavash Shahshahani e-mail: hostmaster@nic.ir address: IRNIC-IPM, Shahid Bahonar Sq., Tehran, Tehran, IR phone: 22292080 fax-no: 22295700 source: IRNIC # Filtered nic-hdl: as51-irnic person: Alireza Saleh e-mail: [redacted]@gmail.com source: IRNIC # Filtered domain: irnic.ir ascii: irnic.ir remarks: This domain is only available for registration under certain conditions source: IRNIC # Filtered
Website language/s	Persian, English
Are policies and procedures available on the registry website?	Yes, for both .ir[168] and DotIran[169] Dispute resolution policy, modelled on UDRP, operated by WIPO Robust bundling system for IDNs to avoid abuses that could arise from confusion between Arabic and Persian keyboards
Registrant restrictions/special policies?	First-come first served
Are there marketing activities towards registrars?	Information not available.
Are there marketing activities towards registrants?	Information not available.
Is DNSSEC offered?	Information not available.

[168] http://www.nic.ir/Terms_and_Conditions_ir
[169] http://www.nic.ir/Terms_and_Conditions_iran

Jordan

Country	Jordan
Top-level national domain administrator	National Information Technology Centre (NITC)
Top-level national domain administrator Type of organisation	Governmental
Registry Operator	National Information Technology Centre
Type of Organisation	Governmental
Operational since* ** In case of transfer, transfer date added below.*	Since 1993
Number of registered domain names	4547[170]
Domain name usage statistics	Information not available.
Domain name renewal rates	92%
Domain name fees to the registrars	100 JD for First Level 50 JD for Second Level
Average domain name price in the local market	Information not available.
Does the registry offer an IDN	Yes
If so, which script(s), are available	Arabic Script

[170] https://www.dns.jo/statistics.aspx

Is there an IDN equivalent ccTLD?	الاردن.
Registration model	Direct Registrations
Number of accredited registrars	N/A
Registrar accreditation process	N/A
WHOIS availability	Yes
Website language/s	Arabic / English
Are policies and procedures available on the registry website?	Yes[171]
Registrant restrictions/special policies?	Included within the registration policy[172]
Are there marketing activities towards registrars?	N/A
Are there marketing activities towards registrants?	N/A
Is DNSSEC offered?	Not applied yet

[171] https://www.dns.jo/Registration_policy.aspx
[172] https://www.dns.jo/paper.aspx

Lebanon

Country	Lebanon
Top-level national domain administrator	American University of Beirut Computing and Networking Services
Top-level national domain administrator Type of organisation	Public/Academic
Registry Operator	American University of Beirut
Type of Organisation	Public/Academic
Operational since* ** In case of transfer, transfer date added below.*	Operational since August 1993
Number of registered domain names	3878
Domain name usage statistics	Information not available.
Domain name renewal rates	No renewal required as long as the trademark certificate is valid.
Domain name fees to the registrars	Information not available.
Average domain name price in the local market	The LBDR is free of charge
Does the registry offer an IDN	NO IDN
If so, which script(s), are available	N/A
Is there an IDN equivalent ccTLD?	N/A

Registration model	Direct
Number of accredited registrars	N/A
Registrar accreditation process	N/A
WHOIS availability	Yes, LDAP
Website language/s	English
Are policies and procedures available on the registry website?	Yes
Registrant restrictions/special policies?	Close country enforcing local presence and trademark certificate in class 38
Are there marketing activities towards registrars?	None
Are there marketing activities towards registrants?	None
Is DNSSEC offered?	Yes

Morocco

Country	Morocco
Top-level national domain administrator	Agence Nationale de Réglementation des Télécommunications (ANRT)[173]
Top-level national domain administrator Type of organisation	Governmental
Registry Operator	Agence Nationale de Réglementation des Télécommunications (ANRT)[174]
Type of Organisation	Governmental
Operational since* ** In case of transfer, transfer date added below.*	Since 1993 Transferred in 2006
Number of registered domain names	57624[175]
Domain name usage statistics	Yes[176]
Domain name renewal rates	92%
Domain name fees to the registrars	See Table 1 Annex – page 159
Average domain name price in the local market	Information not available.
Does the registry offer an IDN	Not at present[177]

[173] http://www.registre.ma/
[174] http://www.registre.ma/
[175] http://www.registre.ma/ - rolling registration counter
[176] http://www.registre.ma/?page_id=126
[177] http://www.registre.ma/?page_id=60

If so, which script(s), are available	Arabic Script: Under construction
Is there an IDN equivalent ccTLD?	.المغرب
Registration model	registry-registrar-registrant Model
Number of accredited registrars	27
Registrar accreditation process [178]	Yes[179]
WHOIS availability	Yes
Website language/s	French
Are policies and procedures available on the registry website?	Yes
Registrant restrictions/special policies?	None
Are there marketing activities towards registrars?	None at present time. N.b.: In March 2015, the .ma migrated user platforms to a new platform based on international standards. Following this, the ANRT will launch in the near future several campaigns (communications, and promotions) aimed at both registrars and registrants.

[178] http://www.registre.ma/?page_id=106
[179] http://www.anrt.ma/sites/default/files/documentation/2008-12-08-modalites-decl-SVA-fr.pdf

Are there marketing activities towards registrants?	None at present time. N.b.: In March 2015, the .ma migrated user platforms to a new platform based on international standards. Following this, the ANRT will launch in the near future several campaigns (communications, and promotions) aimed at both registrars and registrants.
Is DNSSEC offered?	No

TABLE I - Annex:

Number of years	Fees to registrars related to registering a domain name (in Dirhams - MAD)	Fees to registrars related to the renewal of a domain name (in Dirhams - MAD)
1	100	100
2	190	190
3	270	270
4	340	340
5	400	400

Pakistan

Country	Pakistan
Top-level national domain administrator	PKNIC
Top-level national domain administrator Type of organisation	Private
Registry Operator	PKNIC
Type of Organisation	Self-Supporting Organisation (Private)
Operational since* ** In case of transfer, transfer date added below.*	Operational since June 1992
Number of registered domain names	Nearing 100,000 registrations Growth +/-10000 new per year
Domain name usage statistics	Information not available.
Domain name renewal rates	31-35%.
Domain name fees to the registrars	Resellers buy a certain amount of domain names to resell to clients. When buying bulk resellers are afforded a 20% reduction. -Cost of domain names +/-20USD/2 year registration. Thus, resellers pay +/-16 USD/ year registration
Average domain name price in the local market	Information not available.

Does the registry offer an IDN	NO IDN
If so, which script(s), are available	There is a .pakistan in Urdu available but not part of PKNIC
Is there an IDN equivalent ccTLD?	Yes
Registration model	Direct Registrations -independent, non-affiliated resellers through a prepaid card system.
Number of accredited registrars	Dozens of resellers, many have begun process to become accredited registrars under the Channel Partner Program
Registrar accreditation process	At the moment resellers can simply pay on the PKNIC website to buy domain names in bulk to resell with no accreditation process.
WHOIS availability	No due to security concerns. Information can be obtained through filing a request on the PKNIC website
Website language/s	English
Are policies and procedures available on the registry website?	Yes[180]
Registrant restrictions/special policies?	Must adhere to PKNIC- Internet Domain Registration Policy N.b. There is no requirement for the domain registrant to have any local presence and

[180] https://pk6.pknic.net.pk/pk5/pgPolicy.PK

	no Admin contact needs to be present in Pakistan. However, must Respect Pakistan Penal Code Act, 1860 (including offences of defamation & blasphemy)/ Anti-Terrorism Act, 1997/any applicable criminal law.
Are there marketing activities towards registrars?	Announced on August 14 2015 Channel partner programme – A restructure of its current reseller system. PKNIC has created a tiered system with an annual fee and application fee, to become a registrar. This will afford accredited registrars benefits (co-funding, Cobranding, presence on website).
Are there marketing activities towards registrants?	No marketing at all at the moment. Plans to develop an offer providing a free website and hosting program for one year. Provide a template and allow people to develop their own presence online. And registrar activities already happening
Is DNSSEC offered?	No

Qatar

Country	Qatar
Top-level national domain administrator	Supreme Council of Information and Communication Technology (ICT Qatar) – Communications Regulatory Authority (CRA)
Top-level national domain administrator Type of organisation	Governmental
Registry Operator	Qatar Domains Registry[181]
Type of Organisation	Governmental[182]
Operational since* ** In case of transfer, transfer date added below.*	Transferred in 2010. Previous operator had run .qa as a closed registry
Number of registered domain names	.قطر :377 (Dec 2014) .qa: 18,840 (Dec 2014) 20,659 (Sept. 2015).[183]
Domain name usage statistics	Information not available.
Domain name renewal rates	Information not available.
Domain name fees to the registrars	Information not available.

[181] https://www.domains.qa/en
[182] http://www.ictqatar.qa/en/about-us
[183] https://www.domains.qa/en

Average domain name price in the local market	Ooredoo QR 50 (€12.50) set up + QR 20 (€5 per month) = €72.50 per year W3.com.qa QR 250 (€63) per year Qept-qatar also QR 250 per year AEServer $35 per year (€32)
Does the registry offer an IDN	Yes, under .قطر
If so, which script(s), are available	Arabic
Is there an IDN equivalent ccTLD?	.قطر
Registration model	Registry-registrar-registrant
Number of accredited registrars	16 accredited registrars, of which 11 are international, and the remaining 5 are from the region[184]
Registrar accreditation process	Fill in online form[185], includes information about business capacity, domains under management, whether or not ICANN accredited.
WHOIS availability	Yes – on website[186]. Output displays registrant contact name + email; tech contact name + email
Website language/s	Arabic, English
Are policies and procedures available on the	Yes[187]

[184] http://www.domains.qa/en/registrars/accredited-registrars
[185] https://www.domains.qa/sites/default/files/Registrar%20Pre-Application%20Data%20Information%20Form%20250911.doc
[186] https://www.domains.qa/sites/default/files/Qatar%20Domains%20Registry-Privacy%20and%20WHOIS%20Data%20Policy_0.pdf
[187] http://www.domains.qa/en/policies

registry website?	
Registrant restrictions/special policies?	First come first served; no restriction on number of domains per registrant; reserved names policy (including those which may 'violate public morality or… contrary to public order, or … against a religion or a religious character'
Are there marketing activities towards registrars?	Have been working to ensure that all registrars are using EPP rather than web portal
Are there marketing activities towards registrants?	Have developed an app for registering both .qa and قطرdomains
Is DNSSEC offered?	Information not available.

Saudi Arabia

Country	Saudi Arabia
Top-level national domain administrator	Communications and Information Technology Commission
Top-level national domain administrator Type of organisation	Public
Registry Operator	SaudiNIC
Type of Organisation	Set up by Royal decree. Financially independent. Seems to be public sector.[188]
Operational since* ** In case of transfer, transfer date added below.*	2006
Number of registered domain names	37240 (.sa) Dec 2014 2038 (.السعودية) Dec 2014 40336 (.sa) July 2015 2097 (.السعودية) July 2015 (NB this figure is derived as 5.2% of the total number of domains registered[189]
Domain name usage statistics	Information not available.
Domain name renewal rates	Information not available.

[188] http://www.citc.gov.sa/English/AboutUs/Pages/OrgStructure.aspx
[189] http://nic.sa/en/view/statistics

Domain name fees to the registrars	No registrars Domain Names are offered free of charge at the registry level
Average domain name price for end user in the local market	150 SAR (according to SaudiNIC) 101Domain USD 249.00 per year (registration time frame 1 month) Marcaria.com USD 248 per year
Does the registry offer an IDN	Yes, under IDN ccTLD
If so, which script(s), are available	Arabic
Is there an IDN equivalent ccTLD?	السعودية.
Registration model	Direct
Number of accredited registrars	N/A
Registrar accreditation process	N/A
WHOIS availability	Web based WHOIS service is publically provided on the SaudiNIC website (www.nic.sa)
Website language/s	Arabic and English
Are policies and procedures available on the registry website?	Yes[190]
Registrant restrictions/special policies?[191]	Registrant must be located in Saudi Arabia Must provide id (if natural person) company

[190] http://nic.sa/en/cat/rules
[191] http://nic.sa/en/view/regulation

	registration or trademark (if legal person) Domain name should have some reasonable relationship with the registrant Prohibited activities – cybersquatting, spamming etc Must not contain obscene, scandalous, indecent, abusive or names contrary to Saudi law or Islamic morality Reserved names Objections processes Transfers are permitted (subj to SaudiNIC consent) More detailed rules apply to third levels Criteria for determining relationship between name and registrant is available on site[192].
Are there marketing activities towards registrars?	N/A
Are there marketing activities towards registrants?	None obvious from website – apart from a campaign in 2010[193]
Is DNSSEC offered?	Not visible in ePortal

[192] http://nic.sa/en/view/domain_name_relationship_criteria
[193] http://nic.sa/en/view/news_122

Tunisia

Country	Tunisia
Top-level national domain administrator	Agence Tunisienne d'Internet (ATI)
Top-level national domain administrator Type of organisation	Governmental
Registry Operator	Agence Tunisienne d'Internet (ATI)[194]
Type of Organisation	Governmental
Operational since* ** In case of transfer, transfer date added below.*	Assigned to IRST in 1991 Transferred to ATI on 12 March 1996. Change to "2R" model registry/registrant. Liberalisation and policy changes following the January 2011 Arab Spring, but no transfer. These include adhering to international best practices, transparency and neutrality.[195]
Number of registered domain names	28711 (.tn)[196] 239 (.تونس)-(.tounes)[197]
Domain name usage statistics	Yes[198]. Statistics available for both the .tn and .tounes extentions.

[194] http://www.registre.tn/fr/index.php?rub=262&srub=329
[195] http://ati.tn/fr/qui-sommes-nous
[196] http://www.registre.tn/fr/index.php?rub=262&srub=329
[197] http://www.registre.tn/fr/index.php?rub=262&srub=360
[198] http://ati.tn/fr

Domain name renewal rates	Auto-renewals on 12 month cycle
Domain name fees to the registrars	Annual fee of 8 Tunisian Dinars 100 millimes (8 TND 100) per Domain Name signed per year.
Average domain name price in the local market	Information not available. Question posed to ATI's "contact-us" mail.
Does the registry offer an IDN	Yes
If so, which script(s), are available	ARABIC
Is there an IDN equivalent ccTLD?	Yes .تونس
Registration model	registry-registrar-registrant
Number of accredited registrars	19
Registrar accreditation process	Full legal accreditation document available on website[199]: Must sign Registrar Convention. Must meet minimum Technical Requirements. Must have a minimum capital of 20 000 Tunisian Dinars (TND). Must have civil insurance of 100 000 TND.
WHOIS availability	Yes
Website language/s	French English, Arabic – Under Construction

[199] http://ati.tn/fr

Are policies and procedures available on the registry website?	Yes[200]
Registrant restrictions/special policies?	Yes. .tn registrant criteria outlined in a the "Charte de nommage du «.tn»"[201]* End-users must be legal entities residing in Tunisia or holding the Tunisian Nationality.
Are there marketing activities towards registrars?	Information not available.
Are there marketing activities towards registrants?	Information not available. Information not available.
Is DNSSEC offered?	Yes

*Charter of naming of ".tn"

[200] http://ati.tn/fr
[201] http://ati.tn/fr

Turkey

Country	Turkey
Top-level national domain administrator	Middle East Technical University Department of Computer Engineering
Top-level national domain administrator Type of organisation	Academic
Registry Operator	Middle East Technical University[202]
Type of Organisation	Academic (Department of Computer Engineering)
Operational since* ** In case of transfer, transfer date added below.*	1991
Number of registered domain names	367.548[203] in total, as of Sept. 2015. Statistics divided per subdomain on site[204].
Domain name usage statistics	Statistical information as published on the registry website.[205] The data under this link are registration numbers, not referring to how the domain names are actually being used.
Domain name renewal rates	The daily statistics on the registry website[206] provide information on how many domain names are being deleted on that particular day. For instance on 8 July 2015, 330 domain names had been deleted.

[202] http://www.nic.tr
[203] https://www.nic.tr/index.php?lang=TR_LANG&PHPSESSID=144336939110912815822873 4178
[204] https://www.nic.tr/index.php?USRACTN=YEARSTAT&PHPSESSID=1436360828784171148875 11
[205] https://www.nic.tr/index.php?USRACTN=STATICHTML&PAGE=about_stats&PHPSESSID=1436360828784171148875 11
[206] https://www.nic.tr/index.php?USRACTN=STATISTICS&PHPSESSID=1436360828784171148875 11

Domain name fees to the registrars	Registration fees are public. Price for new registration depends on the year of registration and the type of the domain name (eg. com.tr 9 USD per year, org.tr 5 USD per year and name.tr 2 USD per year). Detailed information about pricing[207].
Average domain name price in the local market	Information not available.
Does the registry offer an IDN	Yes, since 04/12/2006.[208]
If so, which script(s), are available	Latin script, plus the following Turkish characters: ğ, ı, ü, ş, ö, ç[209] Instructions on how to register an IDN domain name can be found here: https://www.nic.tr/index.php#263
Is there an IDN equivalent ccTLD?	No
Registration model	It is possible to register names via nic.tr <http://nic.tr> website (direct registration) or through a registrar. The registry confirmed they do not favour any of these options. After registration, registrant may transfer domain names from nic.tr <http://nic.tr> to a registrar, and vice versa. There are 13 accredited registrar 10 of which are active and holding nearly 24% of active domain names.
Number of accredited registrars	13, according to information provided by the registry, 10 of which are active and holding nearly 24% of active domain names[210]

[207] https://www.nic.tr/index.php?lang=TR_LANG&USRACTN=PRICELST
[208] https://www.nic.tr/index.php#261
[209] https://www.nic.tr/index.php#261

Registrar accreditation process	Info provided by the registry: "We believe that the registry/registrar model well suits with ccTLDs. We also believe that for the sake of industry a ccTLD should run a thick registry and should always allow direct registration. There are some very detailed and strict technical, financial and administrative rules for accreditation procedure. Any company complying the rules can apply to be a registrar. Nic.tr stays at an equal distance to all registrars."
WHOIS availability	Yes[211] dedicated FAQ: https://www.nic.tr/index.php#241
Website language/s	Turkish, English[212]
Are policies and procedures available on the registry website?	Yes. The FAQ[213] provides useful information, there is also a link to the .tr policies, rules and procedures.[214]
Registrant restrictions/special policies?	Only third level registrations are allowed. There are 19 second level domains, each targeting different types of registrants. Documentary evidence to be submitted[215]. Who could register which domain name[216]? Documents required for application[217]: Paragraph 12 of the policy document: *".tr" domain names are classified into two categories as "Document(s) Required" and "No Document Required" at the allotment stage. The applications are made through NIC-tr web pages. In the*

210 https://www.nic.tr/index.php?PHPSESSID=14363608287841711488751 1&USRACTN=STATICHTML&PAGE=about_registrars

211 WHOIS.nic.tr

212 http://www.nic.tr

213 https://www.nic.tr/index.php?USRACTN=SFAQ&PHPSESSID=1436360828784171148875 11

214 https://www.nic.tr/forms/eng/policies.pdf?PHPSESSID=1436360828784171148875 11

215 https://www.nic.tr/forms/eng/policies.pdf?PHPSESSID=1435657017784171146692 30

216 https://www.nic.tr/index.php#4

217 https://www.nic.tr/index.php?USRACTN=ALLCON%26%2312296%3B=TR_LANG

	applications for "No Document Required" domain names (web.tr, gen.tr, name.tr, tel.tr, etc.), the domain name allotment is actualized immediately. "Document(s) Required" type of domain name applications, on the other hand, are assessed and finalized by the ".tr" Domain Name Administration keeping to the rules stated in this document."
Are there marketing activities towards registrars?	There are different levels of discounts for registrars according to the number of domain names they hold. We don't have any other marketing activities available to registrars.
Are there marketing activities towards registrants?	Not directly by the registry. The registry is expecting registrars to do marketing.
Is DNSSEC offered?	Not signed .tr yet. The registry is testing it internally.
How does the uptake of IDN registrations relate to your expectations?	Turkish language contains 6 more characters which does not exists in ASCII (Latin) character set. Those 6 characters can easily be represented by their substitutes (ç->c ğŸ->g ı->i ö->o ş->s ü->u). That is why Turkish idns is not similar to other idns in the region like Arabic or Persian. The usage of IDNs are mostly to protect brand or company names not as a primary domain name. IDNs consists of 3% of whole domain names in .tr. Registrar may register IDN domain names, but as stated above IDNs are not a major issue in Turkey.
How well are IDNs supported by your registrars?	Turkish language contains 6 more characters which does not exists in ASCII (Latin) character set. Those 6 characters can easily be represented by their substitutes (ç->c ğŸ->g ı->i ö->o ş->s ü->u). That is why Turkish idns is not similar to other idns in the region like Arabic or Persian. The usage of IDNs are mostly to protect brand or company names not as a primary domain name. IDNs consists of 3% of whole domain names in .tr. Registrar may register IDN domain names, but as stated above IDNs are not a major issue in Turkey.
How would you rate the end-	Turkish language contains 6 more characters which does not

user awareness of IDNs?	exists in ASCII (Latin) character set. Those 6 characters can easily be represented by their substitutes (ç->c ğŸ->g ı->i ö->o ş->s ü->u). That is why Turkish idns is not similar to other idns in the region like Arabic or Persian. The usage of IDNs are mostly to protect brand or company names not as a primary domain name. IDNs consists of 3% of whole domain names in .tr. Registrar may register IDN domain names, but as stated above IDNs are not a major issue in Turkey.

United Arab Emirates

Country	United Arab Emirates
Top-level national domain administrator	Telecommunication Regulatory Authority (TRA)
Top-level national domain administrator Type of organisation	Governmental
Registry Operator	aeDA
Type of Organisation	Public
Operational since* ** In case of transfer, transfer date added below.*	2007 Transferred in 2008
Number of registered domain names	.ae December 2013: 112 000 December 2014: 124 000 DotEmarat: Information not available.
Domain name usage statistics	Information not available.
Domain name renewal rates	Information not available.
Domain name fees to the registrars	Variable registration periods (1-5 years) see schedule 2 of Registry-registrar agreement[218]; second level eg co.ae, net.ae

[218] http://aeda.ae/eng/policies/AEDA-AGR-001-v1.0-Registry_Registrar_Agreement.pdf

	gov.ae still actively offered. 1 year registrations range between 50 AED (mil.ae, gov.ae, ac.ae, sch.ae, org.ae) 100 AED (.ae, co.ae, net.ae) No savings for multiyear registrations
Average domain name price in the local market	Information not available.
Does the registry offer an IDN	Yes – at separate IDN ccTLD, not under .ae
If so, which script(s), are available	Arabic
Is there an IDN equivalent ccTLD?	.امارات (dot Emarat)
Registration model	Registry-registrar-registrant
Number of accredited registrars	22[219] (10 are accredited for .امارات[220])
Registrar accreditation process	Technical ability to integrate with .ae systems, responsibilities to comply with .ae policy. Registry-registrar agreement[221]. Registrar fees: Application fee AED 3,000 Accreditation fee AED 5,000 Initial deposit AED 30,000

[219] http://www.aeda.ae/eng/news.php?id=113
[220] http://www.aeda.ae/eng/acc_registrars.php
[221] http://aeda.ae/eng/policies/AEDA-AGR-001-v1.0-Registry_Registrar_Agreement.pdf

	Annual accreditation fee AED 5,000 1 AED = approx. 0.25 €
WHOIS availability	Yes. Web based WHOIS has captcha. Postal address, phone, fax details not revealed. WHOIS output (below) suggests port 43 access also available for registrars – example output: Whois Lookup Click here to perform another Whois query Whois response for **aeda.ae**: Domain Name: aeda.ae Registrar ID: aeDA Regulator Registrar Name: aeDA Regulator Status: ok Registrant Contact ID: R085907 Registrant Contact Name: Telecommunication Regulatory Authority Registrant Contact Email: info@aeda.ae Tech Contact ID: C157151 Tech Contact Name: Mohd Al Zarooni Tech Contact Email: alzarooni@aeda.ae Name Server: dns2.aeda.net.ae Name Server: dns1.aeda.net.ae If you are using this service to check or change the contact details of your domain name you must contact your Registrar in order to do so. This can be done by simply clicking on the Registrar's link located next to 'Registrar Name'.
Website language/s	Arabic – English
Are policies and procedures available on the registry website?	Yes[222] Emarat domain policy[223]
Registrant restrictions/special policies?	First-come first served (.ae), no residency requirement; second levels have eligibility requirements – eg net.ae (trading licence; trademark holder; exact match/acronym/abbreviation/closely

[222] http://aeda.ae/eng/policies/AEDA-POL-007-v1.1-ae_Domain_Name_Policy.pdf
[223] http://aeda.ae/eng/policies/AEDA-POL-016-v1.0-dotEmarat_Domain_Name_Policy.pdf

	connected DotEmarat policies: Variant policy applies No eligibility requirements or residency requirements Reserved names list Dispute resolution service operated by WIPO
Are there marketing activities towards registrars?	Engages regularly with accredited registrars to gain feedback on improving services and customer satisfaction.
Are there marketing activities towards registrants?	Sustained outreach plan, celebrating high profile users of .ae, using Twitter hashtag #yes2ae
Is DNSSEC offered?	Information not available.

ANNEX II: Registrars Surveyed

PDR Ltd.	Tucows.com Co.
GoDaddy.com LLC	eNom Inc.
Strato AG	Corporation Service Company
OVH	Internet.bs
United-domains AG	Network Solutions, LLC.
Ascio Technologies Inc.	Namefrance.com, inc.
nazwa.pl S.A. (dawniej NetArt Spółka Akcyjna S.K.A.)	Instra Corporation Pty Ltd.
Mesh Digital Limited	MarkMonitor International Limited
Home.pl S.A.	1&1 Internet AG
Aruba S.p.A	Key-Systems GmbH
Domain Robot	Register.it S.p.A
Vautron Rechenzentrum AG	Domainfactory GmbH
OpenProvider	Gandi
Hostnet BV	RegistryGate GmbH
INTERNET CZ, a.s	TransIP BV

ANNEX III: Interview with Janelle McAlister

Janelle McAlister , Manager Global Relationships, MarkMonitor Inc.

On 26 August 2015, Ms. McAlister, Manager, Global Relationships at MarkMonitor Inc. spoke with Sebastien Pensis, UK/Overseas Liaison Manager at EURid about MarkMonitor's experience with the domain name market in the Middle East region. The interview took place in the context of research for ICANN's Study of the domain name industry in the Middle East and Adjoining Countries (MEAC Region).

MarkMonitor Inc.'s focus is domain registration as a brand protection method. In an effort to provide comprehensive service to their clients, MarkMonitor Inc.'s goal is to offer every ccTLD and gTLD possible. The principle clients in MarkMonitor's portfolio are corporations and large enterprises seeking to protect a specific brand. With the exception of .ir and its IDN equivalent, the registrar offers all the domain names on offer in the MEAC region:

Country	ccTLD	IDN ccTLD
United Arab Emirates	.ae	.امارات
Afghanistan	.af	
Egypt	.eg	.مصر
Jordan	.jo	.الاردن
Lebanon	.lb	
Morocco	.ma	.المغرب
Pakistan	.pk	.پاکستان
Qatar	.qa	.قطر
Saudi Arabia	.sa	.السعودية
Tunisia	.tn	.تونس
Turkey	.tr	

MarkMonitor Inc. has been operating in the MEAC region for over ten years. In this time, MarkMonitor has witnessed growth in the region, however in their opinion this growth cannot be categorized as "significant". The growth of the region is linked to the practices of the registries who operate there. MarkMonitor has found that there are a lot of variations in the MEAC region, in terms of registry practices. These variations come from several factors, including registry responsiveness, API availability, registrar limitations and registration requirements. Furthermore, MarkMonitor has listed some specificities to the MEAC market as being the long

waiting time for domain name activation as well as legal documentation requirements which go beyond a simple online purchase.

Overall, in MarkMonitor's view, the stability[224] in the region has increased. The growth of use of API platforms has streamlined registrations and facilitated easier access to domain name maintenance. Beyond accessibility and stability, security was a further concern of registrants from MarkMonitor. The security concerns of their clients centre on domain name hijacking and unauthorised updates. Therefore, clients are more interested in Registry Lock services which can be used on an API system and ensure the security of the domain name. In MarkMonitor's opinion an increase in Registry Lock services in the region would help increase security and would be beneficial.

[224] Stability refers to the services provided, the security level and the access registrars have to manage their portfolio and cooperate with the registry.

ANNEX IV: REGISTRY PRICE LIST

Domain name	Country	Registry Price	Registrar Price
.ae	United Arab Emirates		Average price across registrars surveyed: 67,8 EUR per year
.af	Afghanistan	N/A	Average price across registrars surveyed: 86,9 EUR per year
.eg	Egypt	179 EUR for second level domain 54 EUR for third level (2 letter) 36 EUR for third level (3 or more letter)	Average price across registrars surveyed: 314 EUR per year
.ir	Iran	1 year – 4,8 EUR for locals or 20 EUR through a foreign reseller (second level registrations). Pre-payment model – discounts available (25% - 75% depending on volume and amount of deposit lodged)	Average price across registrars surveyed: 106 EUR per year
.jo	Jordan	126 EUR for First Level 63 EUR for Second Level	Average price across registrars surveyed: 304 EUR per year
.lb	Lebanon	N/A	Average price across registrars surveyed: 86 EUR per year
.ma	Morocco	1 - 9 EUR	Average price across registrars surveyed: 79 EUR per year
.pk	Pakistan	Resellers buy a certain amount of domain names to resell to clients. When buying bulk resellers are afforded a 20% reduction. Cost of domain names: about 18	Average price across registrars surveyed: 70 EUR per year

		EUR per 2 year registration.	
.qa	Qatar		Average price across registrars surveyed: 45 EUR per year
.sa	Saudi Arabia	Domain Names are offered free of charge at the registry level	Average price across registrars surveyed: 223 EUR per year. At local level, the price is around 150 SAR. In both cases the cost depends on the services to which the registration is bundled.
.tn	Tunis	Annual fee of 4 EUR per Domain Name signed per year	Average price across registrars surveyed: 105 EUR per year
.tr	Turkey	Registration fees are public. Price for new registration depends on the year of registration and the type of the domain name (eg. com.tr 8 EUR per year, org.tr 4,5 EUR per year and name.tr 1,8 EUR per year).	Average price across registrars surveyed: 35 EUR per year
.امارات	United Arab Emirates	2nd level registrations: 12 EUR	Average price across registrars surveyed: 67 EUR per year
.ایران	Iran	1 year – 4,8 EUR for locals or 20 EUR through a foreign reseller (second level registrations). Pre-payment model – discounts available (25% - 75% depending on volume and amount of deposit lodged) Domain transfer fees : 2 EUR for locals; 10 EUR if new address is foreign.	Not offered by any of the registrars we surveyed
.الاردن	Jordan	126 EUR for First Level 63 EUR for Second Level	Not offered by any of the registrars we surveyed

.المغرب	Morocco	N/A	Not offered by any of the registrars we surveyed
.قطر	Qatar	N/A	Average price across registrars surveyed: 45 EUR per year
.السعودية	Saudi Arabia	Domain Names are offered free of charge at the registry level	Not offered by any of the registrars we surveyed. However, local providers provide domain services under .السعودية
.تونس	Tunis	Annual fee of 4 EUR per Domain Name signed per year	Not offered by any of the registrars we surveyed
.masr	Egypt	3% of their Domain Name sale Revenue	Registrars were not queried regarding this TLD