ICRIER

POLICY BRIEF

.in Policy Brief

ccTLD .IN Policy Brief

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Executive Summary

Country-Code Top Level Domains (ccTLDs) are a significant element in the global internet addressing system. These unique two-letter strings assigned to a country or geographical area provide their identify in the domain name system As of March 31, 2020, there were 307 global ccTLD extensions delegated in the root zone, including IDNs, with the top 10 ccTLDs comprising over 65% percent of all ccTLD domain name registrations. The .in domain registrations in India has grown at a compound annual growth rate of 24 % from 120,702 in June 2005 to 1,899,614 in June 2018. Similarly, the number of registrars too has grown from 35 in 2005 to 122 in 2018.

.in is the second-most popular ccTLD in India after .com. While .com remains the de facto first choice of most registrants. Reasons for this choice were reported to be the sheer legacy value of .com and its recognition, however it was also noted that .in is inevitably next-in-line for firms once the possibility or viability of acquiring .com is exhausted or expensive.

Furthermore, India's domain name industry is underpenetrated and the .in domain name has an untapped growth potential. India presents a huge opportunity for the domain name market as online businesses trickle down to Tier 2 and Tier 3 cities.

It was noted that there is a significant need to improve the uptake and awareness surrounding Internationalised Domain Names (IDNs). Given that India is a multilingual country, and with a majority of non-english speakers, creating a mult-lingual internet that caters to this population is essential to realise the vision of the Digital India Programme. IDNs will play a crucial role in enabling the growth of local language internet in India and bridge the linguistic digital divide. A proactive policy and a forward-looking business strategy for .in domain and its IDN variants proliferation can help establish .in as a globally recognized symbol of India's growth and improve online experience for the population nationally.

The opening of the .IN Registry has significantly improved and broadened the availability of the domain names. Today, the .in ccTLD sees wider recognition and greater adoption compared to the early phase. While domain name registrations under '.in' have continued to grow, it is still underpenetrated. The role of policy becomes important to create an enabling ecosystem that will help develop a sustainable growth trajectory. Through this policy brief, ICRIER has proposed policy recommendations that will be helpful in bridging this gap, they include (i) curating and maintaining a database of total domain name registrations and making such statistics available to public at large (ii) enhancing the corporate image '.in' and undertaking awareness and brand building efforts (iii) incentivising registrars to aggressively promote '.in' and (iv) invest in IDN deployment and promote development of local language content.

1.   CcTLDs: Origin, Purpose and Definitions

A Country Code Top Level Domain (ccTLD) is a unique two-letter string (i.e., sequence of characters) that has been assigned to a country or other geographical area in order to identify it in a domain name[1]. By the early 1990s, as more countries connected to the internet, national governments and private companies began to realise the socio-economic potential of a ccTLD. This increased requests for ccTLD delegations substantially[2]. Today, national governments recognize ccTLDs "as a component of their sovereignty and a vital national interest'[3]. Realizing that ccTLDs may denote the "brand of the country," some governments openly embrace ccTLDs as "a platform for national economic growth and the institutions of civil society brought online[4]." Over time, it has become a model of organizing virtual territories to govern the issues related to visibility, transparency, and the property effect of online websites, which have both commercial and non-commercial content.[5]

Unlike generic top-level domain names (gTLDs,) ccTLDs are not regulated by the Internet Corporation for Assigned Names & Numbers (ICANN), the non-profit organization responsible for coordination of the global Internet system. The management of these are delegated to designated individual country managers, whose country or territory is assigned a unique two-letter code from the International Standards Organization's; the managers operate the ccTLDs according to local policies that are adapted to best meet the economic, cultural, linguistic, and legal circumstances of the country or territory involved. Each country has jurisdiction over their own ccTLDs and each local registry establishes their own policies and procedures. The assigned registries may impose certain conditions to be met in order to register a ccTLD. For example, some registries require a local presence within their country, others require trademarks, and others require notarized signed documentation. Some countries that also have a generic name advantage and do not require residence of registrants in their country are Armenia (.am), Austria (.at), Belarus (.by), Belgium (.be), Colombia (.co), Estonia (.ee), Iceland (.is), India (.in), Italy (.it), Montenegro (.me). This diversity of rules may be challenging for some companies to secure their brand in a particular cc-TLD or others to acquire a ccTLD for use.

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[1]   ccTLDs were conceived in the early 1980s by Jon Postel and Paul Mockapetris; computer scientists at the University of Southern California. The sole requirements to operate a ccTLD were for the administrative contact for each country code to reside in the given country and understand they were 'performing a public service on behalf of the internet community See OECD (2006). Evolution in the Management of Country-Code Top-Level Domains (ccTLDs). Available at: https://www.oecd.org/sti/ieconomy/37730629.pdf

[2]   Yu, P.K. (2004). The Origins of ccTLD Policymaking. 12 Cardozo J. Int'l & Comp. L. 387. Available at: https://scholarship.law.tamu.edu/cgi/viewcontent.cgi?article=1545&context=facscholar

[3]   Arx. K and Hagen. G (2002). "A Declaration of Independence of ccTLDs from Foreign Control" , The Richmond Journal of Law and Technology, Volume IX, Issue 1, Fall 2002

[4]   Cukier. K (2002). Eminent Domain: Initial Policy Perspectives On Nationalizing: Country-Code Internet Addresses 4 (2002), available at http://inet2002. org/CD-ROM/lu65rw2n/papers/g03-b.pdf

[5]   Simanungkalit (2013). Evaluating Governance and Market of Country Code Top Level Domain (ccTLD): Lessons for Indonesia's ccTLD .id. School of Public Policy Capstones. 25. University of Massachusetts Amherst. Available at: https://scholarworks.umass.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1022&context=cppa_capstones

As of March 31, 2020, there were 307 global ccTLD extensions delegated in the root zone, including IDNs, with the top 10 ccTLDs comprising over 65% percent of all ccTLD domain name registrations.[6] From 311.9 million registrations in 2010, the ccTLD registrations have grown at a compound annual growth rate of 9.2%. The year 2017 saw 578.1 million registrations of ccTLDs globally.

Figure 1.1: ccTLDs registrations from 2011 -2017
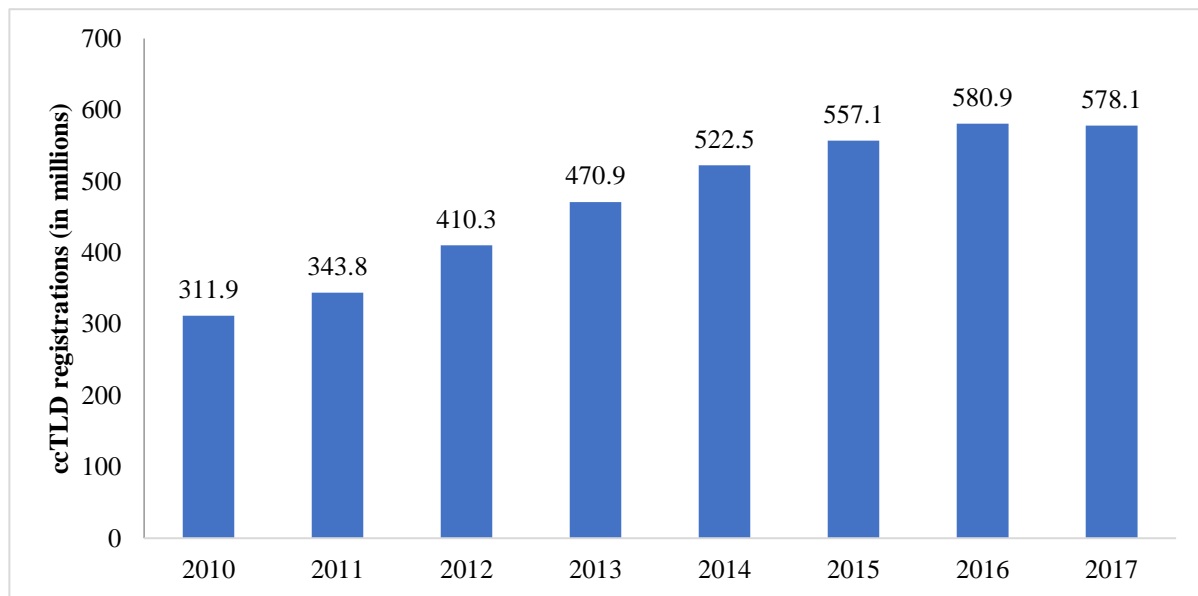
Source: Compiled by authors from VeriSign Domain Name Industry Briefs (2010-2018)

Across the regions, average ccTLD growth has continued positively with highest rates found in Africa, where ccTLDs such as .ng (Nigeria), .ke (Kenya) and .za (South Africa) have seen strengthening growth in registrations. Other ccTLDs around the world that are growing strongly include .ai (Anguilla, often promoted as a TLD for artificial intelligence), .uz (Uzbekistan), .nu (Niue), .az (Azerbaijan) and .mx (Mexico). According to Centrstats global TLD reports, European ccTLDs grew at a combined 2.9% year on year to 72 million domains in total. Of all locally (European region) registered domains, ccTLDs make up an estimated 62% of the market. In many European countries, the local ccTLD is the dominant TLD in terms of local registrations, with an average market share of 54%[7]. Overall the top 10 ccTLDs, as of June 30, 2020, were .tk (Tokelau), .cn (China), .de (Germany), .uk (United Kingdom), .ru (Russian Federation), Gabon (.gb), .fr (France), .cf (Central African Republic), .nl (Netherlands) and .eu (European Union). The following table lists the world's largest ccTLDs by the number of reported domain names registrations as on June 2020.

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[6]   Verisign (Q1 2020). The Verisign Domain Name Industry Brief. Available at:
       https://www.verisign.com/en_IN/domain-names/dnib/index.xhtml
[7]   Calculation includes local registrations of non-local ccTLDs such as .eu).

Table 1.1: Top 10 ccTLDs Registrations as on June 2020

Rank	Country	ccTLD name	Number of reported domain names *(in millions)*
1	Tokelau[8]	.tk	19.2
2	China	.cn	18.6
3	Germany	.de	13.3
4	United Kingdom	.uk	10.6
5	Russia	.ru	7.5
6	Gabon	.ga	4.2
7	France	.fr	4.1
8	Central African Republic	.cf	4.1
9	Netherlands	.nl	3.8
10	European Union	.eu	3.7

Source: Domain Name Stats https://domainnamestat.com/statistics/tldtype/country

As such, over the past one year ccTLD registrations increased from 110 million in June 2019 to nearly 149 million in June 2020.[9] Among the top performing TLDs globally that include .com, .tk, .net, .de, .uk, .org, .cn, .ru and .info, five are ccTLDs[10]. While .in domain registrations continue to grow, it does not feature among the top global ccTLDs and TLDs. The following section traces the evolution of .in and analyses the challenges and the opportunities in the promotion of the .in domain and its IDN variants.

2.   Evolution and trend analysis of .IN domain

.IN domain name policy framework and implementation plan has been formulated and the policy was announced by the Government in October 2004. This planned to move the registry function away from the Centre for Development of Advanced Computing (C-DAC) to a separate entity. In January 2005, the Ministry of Communications and Information Technology, which was then the Department of Electronics and Information Technology (DeitY) along with the National Internet Exchange of India (NIXI) took the important step of re-launching the .in ccTLD Registry by setting up state-of the-art hardware and software.

NIXI is registered as a Not-for-Profit Company under Section 25 of the Indian Companies Act, 1956 with the objective of facilitating improved Internet services in the country. It has been promoted by the then Department of Electronics and Information Technology (DeitY), in association with the Internet Service Providers Association of India (ISPAI).

Under NIXI, the .IN Registry functions as an autonomous body with the primary responsibility for maintaining the .IN ccTLD and ensuring its operational stability, reliability, and security. It implements the various elements of the new policy set out by the Government of India's Ministry of Communications and Information Technology. It is important to note

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[8]   .tk, the ccTLD belonging to Tokelau, is the only ccTLD available free of cost.
[9]   Domain name registrations in Country TLDs Domain Name Stat, available at:
      https://domainnamestat.com/statistics/tldtype/country, (last accessed on June 12, 2020).
[10]   Domain Name Stat (2018). Domain name registration's statistics. Available at: https://domainnamestat.com/

that the .IN Registry does not carry out registrations itself but accredits registrars through an open process of selection based on transparent eligibility criteria.[11]

The opening of the .IN Registry has significantly improved and broadened the availability of the domain names. Following the liberalisation of registration rules in 2005, .in ccTLD saw a marked uptake. Dubbed as the 'Sunrise Period', owners of registered Indian trademarks or service marks who wished to protect their marks were given the opportunity to apply for .IN domain names before the general public, followed by the opening of real-time, open registration for the general public. Over 2.01 million .in domains have been registered since 2004.[12] Between January 2005 and August 2013, registration of .IN domains has grown from 6,500 names to about 1.31 million[13].

Today, the .in ccTLD sees wider recognition and greater adoption. Particularly Indian residents, individuals, Government entities, public service organizations and businesses can establish an Indian identity in the online space using a short and unique domain name. Additionally, .in may also be used as an abbreviation for "internet.". Furthermore, it also creates great opportunities for clever domain hacks, like conta.in, pumpk.in, or zeppel.in.[14] The section below provides an in-depth trend assessment of .in domains in India.

2.1 Analysing .in domains trends

The .in domain registrations in India has grown at a compound annual growth rate of 24 % from 120,702 in June 2005 to 1,899,614 in June 2018. Similarly, the number of registrars too has grown from 35 in 2005 to 122 in 2018.

Figure 2.1: .in domain registration in India
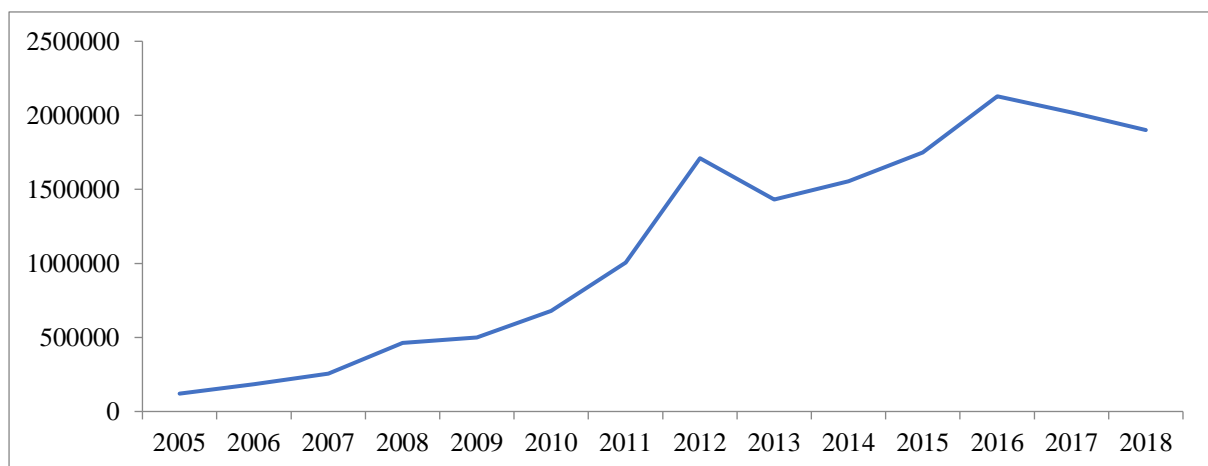
Source: NIXI

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[11]   NIXI ,2018, www.nixi.in
[12]   NIXI ,2018, www.nixi.in
[13]   IRINN (2018). Indian Registry for Internet Names and Numbers. Available at:
        https://www.irinn.in/pages/static/Arbitrator_advertisement.pdf
[14]   Name.com https://www.name.com/domains/in

.in is the second-most popular ccTLD in India after .com, and this has also been corroborated by industry interactions, where it emerged that .com remains the *de facto* first choice of most registrants. *Reasons for this choice were reported to be the sheer legacy value of .com and its recognition, however it was also noted that .in is inevitably next-in-line for firms once the possibility or viability of acquiring .com is exhausted or expensive.* In fact, during stakeholder interactions, it was pointed out that .com remains the first choice for a lot of registrants and many of them *also buy* .in as a defensive strategy to avoid potential intellectual property disputes.

Table 2.1: Domain Name counts by TLDs: India (2018)

TLD	India (millions)
.com	3.02
.in	1.4
.net	0.24
.org	0.18
New TLDs	0.17
Others	0.14
.info	0.06
.mobi	0.04
.biz	0.03
.asia	0.01
Total	**5.3**

Source: Zinnov Report 2018

.in internationalised domain name (IDNs) is available in 15 local languages. The Table 2.2 lists down some of the various IDN variants of .in domain names. The.bharat TLD would also be available in Kannada, Malayalam, Assamese, Oriya, Kashmiri, Sanskrit, Santali and Sindhi IDN variants. In an attempt to promote IDN variants of .in, the government had a promotional period during which .bharat IDN variants were offered free with registration of .in ccTLD for one year.[15]. The IDN variants of India's ccTLD are being sold by only a few companies accredited by .in Registry. The .in registry website lists 34 registrars that are accredited for IDN sales.[16]

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[15]   Press Trust of India (2016). Government to Offer Free. bharat Domain Name With .in Purchase, Gadgets 360., https://gadgets.ndtv.com/internet/news/government-to-offer-free-bharat-domain-name-with-in-purchase-868589

[16]   Accredited Registrars (last updated on the website on May 2020), NIXI, available at: https://www.registry.in/accredited-registrars#idn_registrars

Table 2.2: IDN variants of .in domain

Internationalized Domain Name (IDN)	Language
.भारत	.bharat in Devanagari
.ভারত	.bharat in Bangla
.భారత్	.bharat in Telugu
.ભારત	.bharat in Gujarati
بھارت.	.bharat in Urdu
.இந்தியா	.bharat in Tamil
.ਭਾਰਤ	.bharat in Gurumukhi (Punjabi)

Source: www.registry.in

Despite the introduction of .in IDN variants, the number of ccTLD domain names, particularly IDN variants registered does not truly represent the penetration of information technology in India or its enormous non-English speaking population. [17] One would wonder why this is the case considering the growing dimensions and vibrancy of the Indian economy especially given the number of companies and public institutions operating in the area of Information Technology (IT) and Information Technology enabled Services (ITeS). This concern is further vindicated by the decline in .in domain registration by 5 % as seen in Figure 2.1.

The spiralling sales of smartphones coupled with an increase in Internet penetration will drive the use of mobile-value added services (M-VAS) such as browsing, gaming, social networking, online shopping, location-based services, etc. The overall growth of the Internet ecosystem will be a positive driver for the domain name industry in India. Proliferation of the Internet has also supported growth of e-commerce in India. According to Forrester's Online Retail Market HI 2017 report, online retail sales in India are likely to reach $64 billion by 2021 at a compounded annual growth rate of 31.2%. 40% of FMCG purchases in India are likely to be online by 2020.[18] These forecasts suggest that increased focus on online commerce will drive the growth of the domain name industry in years to come. Furthermore, the flagship "Digital India" programme championed by the present government to hasten the adoption of digital services will catalyse growth of the domain name industry in India. Besides rapid rise in the B2B tech startup landscape, focus on verticals like health-tech and fin-tech will provide potential users and drivers of the domain name industry in India.

According to various industry experts India's domain name industry is underpenetrated and the .in domain name has an untapped growth potential. India presents a huge opportunity for the domain name market as online businesses trickle down to Tier 2 and Tier 3 cities. This was also pointed out during out stakeholder discussions in Mumbai as well Delhi.

India also offers a large market for online engagement in Indian regional languages. 128 million users use Indic content. Of the 128 million users of Indic content, a majority [70%] of

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[17]   Meity.gov.in. http://meity.gov.in/content/internet-domain-registration
[18]   Shah. G (2018), "Rise in digital economy creating FMCG 2.0";
        https://retail.economictimes.indiatimes.com/re-tales/rise-in-digital-economy-creating-fmcg-2-0/3012

the users are only consuming video content. Lack of local language content online pushes this segment to use the internet for just video consumption.[19] The total share of Indian language internet users accessing digital payments is expected to increase from 28% today to 43% by 2021, thus limiting the potential market of an English only platform to 57% of user base. The total Indian language internet users consuming digital news in the 8 Indian languages will exceed the English users by ~85 million in 2021, hence presenting a significantly larger market for regional languages. *A proactive policy and a forward-looking business strategy for .in domain and its IDN variants proliferation can help establish .in as a globally recognized symbol of India's growth.*

2.2 Insights from the Enterprise Survey on the domain name industry in India[20]

Split into an enterprise edition and an individual edition, this survey covered both categories of registrants to build an exhaustive understanding of the consumer layer of the domain name value chain. This survey elicited notable trends in usage patterns, industry priorities, and market perceptions, and delved into currently underutilised, yet high potential, categories such as Internationalised Domain Names (IDNs). Preferences for traditional gTLDs was also gauged vis-à-vis ccTLDs. Valuable policy insights can be gleaned through this survey's wide range of questions, which we have incorporated into our policy recommendations.

Findings from the Enterprise and Individual survey relevant for the scope of this policy brief include:

- .in does not appear to be adequately popular among firms vis-à-vis .com.

- ***Of the 154 enterprises who registered a .com TLD, 31 registered a .in TLD as well***. ***Of the 177 individuals who registered a .com TLD, 6 registered a .in TLD as well.***

- Enterprise Survey: Our analysis of domain name pricing elicited several notable trends. If the .in domain name was purchased individually, a very mild peak was observed at the INR 499 price point. Similarly, for .in, the price at which a domain name was purchased as part of a package peaked at INR 999. The renewal fee for a .in domain by itself peaked at INR 500 on an average, while for .com, the price peaked at INR 499, and to a lesser degree, at INR 799 and INR 999.

- Data on the price at which individuals purchased their registered .in domain name peaked at INR 500, when only the domain name was purchased. On an average renewal fee for a .in domain by itself peaked at INR 500.

- Merely 21.9% of the individuals in the sample were aware of internationalised domain names (IDNs), despite being explained that they are TLDs in a non-Latin script in the subtext of the question. This follows identical results from the enterprise edition of the

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[19] Local Language Internet users in India (2018). Internet and Mobile Association of India (IAMAI), August 2018, https://cms.iamai.in/Content/ResearchPapers/7cbb85e8-fa66-4a41-9705-20dfa8bfe2b9.pdf

[20] Detailed analysis of the Survey is provided in the paper entitled 'A Review of the Domain Name Market in India' submitted to Meity.

survey and is, once again, a worrying result. It implies that individuals are largely oblivious of the existence of IDNs.

3.   Policy recommendations

The role of policy becomes important to create an enabling ecosystem that will help develop a sustainable growth trajectory. Some recommendations for future thinking on the domain name industry are discussed below. These also include lessons from the growth and management of other successful ccTLDs and views from industry stakeholders and experts.

3.1   Curate, maintain a robust database of the industry and publish regular statistics on .in ccTLD

The lack of reliable and consistent data on the domain name registrations, registrar shares in the Indian market, data on transfers and renewal of domain names has been one of the biggest limitations of the study. A better understanding of the market requires the maintenance of a centralised database curating various metrics that measure the status and progress of the industry. This begins with first identifying the necessary metrics and ensuring a systematic data collection mechanism. A crucial metric to monitor closely is the number of renewals. The success of a TLD depends on continued use and recognition online. A burst of registrations during promotional offers without proportional renewals results in declining and unsustainable growth paths.

This curation and maintenance of the database can be done by the registry (NIXI). A crucial use of such data should be regular updates. This doubles up as a measure of transparency that improves trust in the ccTLD. The table below shows that India's ccTLD registry is probably the only non-profit registry that does not share regular reports or statistics publicly.

Table 3.1: List of ccTLD Registries that report and publish domain name statistics

ccTLD	Registry	Non-profit/public organization	Publish timely domain name reports/statistics
.tk	Freenom		
.de	DENIC	✓	✓
.cn	China Internet Network Information Centre (CNNIC)	✓	✓
.uk	Nominet	✓	✓
.nl	SIDN	✓	✓
.ru	Coordination Center for TLD RU	✓	✓
.eu	European Registry for Internet Domains (eurID)	✓	✓
.br	Brazilian Network Information Centre ((Núcleo de Informação e Coordenação do Ponto br))	✓	✓
.fr	Association française pour le nommage Internet en coopération (AFNIC)	✓	✓
.au	auDA	✓	✓
.it	IT-NIC	✓	✓
.ca	Canadian Internet Registration Authority (CIRA)	✓	✓
.ga	Freenom		
.pl	NASK	✓	✓
.cf	Freenom		
.co	.CO Internet S.A.S (Neustar)		
.us	Neustar		
.in	National Internet Exchange of India (NIXI)	✓	
.es	Red.es	✓	✓
.ch	SWITCH	✓	✓

Regular sharing of such growth metrics increases industry awareness and enables more nuanced studies of ccTLD adoption in India. This can aid in developing more effective growth strategies.

3.2   Enhance the corporate image of .in and structure of .in Registry

Creating a corporate image of .in will be a passport to brand awareness and recognition. The objective can be achieved by deploying marketing strategies that can multiply and enhance communication channels towards diverse stakeholders thereby creating brand awareness, product visibility, publicity and knowledge of.in. Both traditional medias including print advertisement, television interviews, radio and new digital media such as digital marketing through social media platforms, e-newsletters, etc can be utilised to conduct various awareness campaigns. Television as a medium for brand building can be achieved through a low cost-per-thousand spends and much wider reach. Similarly, radio allows targeted marketing via selected buys by station and time slot. Additionally, awareness can be created through e-mails which can be targeted to the prospects via opt-in email, ensuring that these respondents are self-selecting prospects for optimal targeting. This kind of marketing is common across gTLDs and ccTLDs.

These awareness and brand building efforts are a necessary step to address the recognition and popularity of .com and other legacy TLDs in India, in addition to the growing number of new gTLD options. India's ccTLD also has the advantage of being a commonly recognized generic word '.in'. The fastest growth of ccTLD in history was seen in the '.me' ccTLD of Montenegro. The similar advantage of having a generic meaning has made it an internationally popular and recognizable ccTLD.

Further, to aid in this goal, it may also be important to consider the structure of the .in Registry. The .in Registry operates as an autonomous body within NIXI which is primarily an internet exchange. Most ccTLD registries in the world are separate entities that have the core function of managing the ccTLD. Further, the current member structure of NIXI does not have representation from the registrar and registry communities. It would be beneficial to consider a dedicated organizational structure with membership from industry stakeholders to revive a market focussed approach at the .in registry.

3.3 Leveraging partnerships and incentivising registrars

The success of any TLD is dependent on its promotion orchestrated by the registries. A TLD will be more, or less visible depending on the position allocated to it by a registrar. For example, the .co TLD, which initially designated Colombia, changed its registration rules in 2010 to become accessible to brands and companies outside its borders. They also partnered with Go daddy, one of the largest registrars in the world who supported the development of .co and highlighted it on its website by pushing advertising banners[21]. This immediately grabbed the attention of start-ups and entities looking to register new domain names. With more .co domains available than in the crowded .com namespace, it was (and still is) easier to find the desired domain names with .co. A 2011 survey conducted by Thomas Park estimated that of the 1000 start-up companies that were established from 2005 to 2011, 1% of start-ups were using the .co TLD. The survey showed that in 2010, .co had only 0.10% market share[22]. It is market share increased by 0.90% in 2011 because of the strong marketing campaign and partnership with registrars.

An example of incentivising registrar's can be seen in Canada's strategy for .ca. The registry website lists the top registrars that registrants can use to register their ccTLD. The registrars are made to compete in terms of achieving targets of registration and/or renewals to be featured on the list.

.in Registry should incentivise registrars and seek strong partnerships such that the .in domain can be aggressively promoted. A co-operative advertising campaign in partnership with ICANN-accredited registrars will encourage participation and drive secure registrations through their sites in their respective countries.

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[21]   Afmic report on "A New gTLD: a new Big Bang for Domain Names"
       https://www.afnic.fr/medias/documents/afnic-issue-paper-new-gtlds-big-bang-for-domain-names.pdf
[22]   Murphy. K (2012). .me beating .co in start-ups?, Domain Incite, http://domainincite.com/7577-me-beating-co-in-start-ups

3.4   Support startups and SMBs

Expanding and supporting tech start-up ecosystem and SMBs is crucial for the future growth of the domain name industry. The Government of India has undertaken several initiatives and instituted policy measures to foster a culture of innovation and entrepreneurship in the country. Startup India, Make in India, Atal Innovation Mission (AIM), and Digital India are some of the flagship programs initiated by the government to enable the adoption of digital services and encourage entrepreneurship in India. However, the execution of some of the initiatives is slow. Even after more than a year of launching the Startup India initiative, the startup creation process remains challenged and the pace of funding remains slow[23]. There are a number of challenges for Indian startups, from the stage of incorporation through the stages of raising capital, hiring resources, scaling up and making an exit. There is a need to address such bottlenecks to minimise failures and ensure that the startups graduate to becoming scaleups. *Startups and SMBs are the demand driver of the domain name industry* and hence a concentrated effort in supporting startups and SMBs is important and bound to stimulate growth in registrations.

3.5   Participate in trade shows and conference

It become imperative that the marketing strategy adopted must focus on increasing the number of .in domain name sales and ensure that majority of the .in domain name sold are used as the primary domain name. Absence of the .in ccTLD impacts visibility and recognition among potential registrants. NIXI should invest in greater participation in trade shows and conference. These platforms provide a harbour for prospective customers from SMB and IT sectors and gives an opportunity to NIXI to tap the untapped market and generate customers through face to face interactions and influencer meeting sessions. Simultaneously it must also increase participation in international venues as well to voice priorities that are unique to India. This would also an opportunity leverage the generic nature of the .in ccTLd to improve recognition and visibility to an international audience.

3.6   Invest in IDN development and promote development content in local language

While proficiency in the English language aspirational quotient for many Indians, a new wave of Internet users in the country are opting to access the internet in their native languages. Only about 12% of India's population is familiar with English. According to a report by Google and KPMG India published in April 2017, there were 234 million Indian-language internet users in 2016 while only 175 million are English users[24], and the gap between the two groups is expected to widen going forward. The report states that nine out of ten new internet users between 2016 and 2021 will use local language. This suggests the need for India to focus on local language domain names. A Neo Brahmi Script

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[23]   Dutta.D. (2017). "*What Indian Startups Really Want From The Government*", Huffington post,https://www.huffingtonpost.in/diksha-dutta/what-indian-startups-really-want-from-the-government_a_22494548/

[24]   KPMG-Google report on Indian languages defining India's internet, https://assets.kpmg.com/content/dam/kpmg/in/pdf/2017/04/Indian-languages-Defining-Indias-Internet.pdf

Generation Panel (NBGP) set up under ICANN has already started working and made much progress in this area. Making available TLD registrations in numerous Indian scripts including Bengali, Devanagari, Gujarati, Gurmukhi, Kannada, Malayalam, Oriya, Tamil and Telugu scripts.

Furthermore, availability of information in local language has become extremely critical due to the ongoing Covid 19 pandemic and inability to access information can be a significant barrier for citizens. This was also evident during the migrant distress when many of 'migrant labourers' affected directly by the lockdown could not access content due to language barrier. In any case, equity can only be ensured in our society if we bridge the existing digital divide and availability of local language content is imperative to further this objective.

The government along with NIXI should draw out effective strategies to launch and promote domain names in local languages both in urban and rural parts of the country as and when they are made available by ICANN. As a torchbearer it is well within the purview of the government to register state government websites, and other public service platforms already available in relevant regional languages. This would be a great first step in not only improving visibility and uptake for IDNs but also immensely improve access to government services to the non-English users in India. For further effective use of domain names more vernacular content needs to be promoted and a holistic approach to developing the indic language ecosystem must be considered.