

Critical Factors Influencing the Registration of Domain Name

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ABSTRACT

Growth and increasing use worldwide domain is inconsistent with growth of world population. Although in terms of domain usage statistics across the world increased, but the distribution of the domain name registration unevenly between countries around the world. There are a number of users of the gap between the domain names countries around the world. The technologies domain name system (DNS), marketing strategic, domain names services and other factors such as economy in the country, culture, environment, educational, geographical location, political, internet activity trends and so on, are also influenced the use and registration of the domain name. Malaysia is also one of the countries categorized as a developing country that is still minimal use of domain names compared to the rate of population, consumer internet and social media. This paper presents the results of a literature review of research critical factors affecting the registration of domain names around the world and the sample are done at Malaysia domain names.

KEYWORDS

Domain Names System (DNS), marketing strategic, critical factors, domain usage, statistics

1 INTRODUCTION

The Domain Name System (DNS) is a critical component of the global Internet infrastructure. Throughout its history, its design and administration has experienced significant dynamic changes as the Internet itself has evolved. Future directions for DNS use and abuse are explored, along with challenges in its future governance. DNS evolution and its influences from political, legal, psychological, sociological, and technological perspectives. [1].

One of the keys to the tremendous success of the Internet is the Domain Name System (DNS). The DNS enables users to identify interesting websites in the vast realm of cyberspace by connecting domain names to specific Internet Protocol (IP) addresses. The DNS makes domain names distinguishable. Since its invention, domain names are no longer necessarily close substitutes. The ability of an individual domain name to distinguish the connected website from the millions of other available websites is the source of its potentially high economic value. [2]

During the month of April 2006, a little more than 35 million domain names were registered. Of these names, 32.7 million were used - most again and again - but never permanently registered. This paper discussed about the expectation factors will influence the growth of domain names. Compilation of information based on latest information from research paper, statistic, report, journal, conference paper, online news, computer magazine, website and blog. Research done by identifying factors with four main factors which is DNS technologies, domain names marketing strategies, domain names services and other factors.

2 LITERATURE REVIEW

DNS has always been a critical part of the Internet's modern infrastructure which is one of factors influencing the registration of domain name around the world. While it replaced the simpler system of HOSTS.TXT and may one day be replaced itself, there will always be a need for a directory service to translate complicated network identification into a readily human-readable

format. As such, it is important that the development of DNS be monitored and studied. DNS is unique in the demands that are placed upon it whereas many other Internet protocols and systems are far more independent of government and cultural influences, DNS must represent these. With the increase in the proliferation of the Internet, the larger network population and stronger commercial influence also place demands on DNS. The influences that may affect DNS research and development are also in flux—while that of the international community is on the rise, the exclusive power of the United States government over its regulation and administration is waning, and technological limitations that would have at one time proven insurmountable will increasingly become tractable problems. [1]

Another critical factor influencing the registration of domain name around the world is internet governance. Currently, an important aspect of the Internet is governed by a private sector, international organization called the Internet Corporation for Assigned Names and Numbers (ICANN), which manages and oversees some of the critical technical underpinnings of the Internet such as the domain name system and Internet Protocol (IP) addressing. ICANN makes its policy decisions using a multi stakeholder model of governance, whereby a “bottom-up” collaborative process is open to all constituencies of Internet stakeholders. The debate over how the Internet’s domain name system is governed may have a significant impact on future debates on how other Internet policy areas are governed on a worldwide basis. The ultimate success or failure of ICANN, and the multi stakeholder model of Internet governance it represents, could help determine how other Internet policy issues—such as Cyber security and privacy—are addressed.

Based on paper “This Factbook, published by CIRA provides an overview of the domain name industry. Researcher: published by Canadian Internet Registration Authority (CIRA) Year: 2012” reported the latest .ca domain name growth, trend, market and internet economy. Also give the result survey about .ca domain name which is the result showed the more than half of survey

respondents say they pay attention to domain extensions when registering a name. Internet users by 2015, the majority of them will access the Internet via a mobile phone. In many countries, fixed line broadband is often either prohibitively expensive and/or unavailable; whereas mobile access is increasingly available and relatively inexpensive. For Canadian businesses to take advantage of the business opportunities offered by new online and mobile markets, they will have to shift the way they communicate with their customers by adopting mobile-ready web sites and applications. That the proven and based on the report the latest technologies is one of factor influencing the registration of domain name around the world.

DNS technologies the most critical factor to influencing the registration of domain name around the world. The high costs and inflexibilities associated with traditional, hardware-based DNS and IP addresses computing appliances, most organizations have implemented existing by utilizing unsupported open source software or generic Microsoft server production industry standard servers. Virtualization is an excellent way to streamline these inefficiencies. [3].

A DNS hosting service is a service that runs Domain Name System servers. DNS hosting service is optimal when the provider has multiple servers in various geographic locations that provide resilience and minimize latency for clients around the world. There are a number of utilities for administering, monitoring, and troubleshooting both DNS servers and clients. These utilities include: The DNS consoles; Command-line utilities which can be used to troubleshoot DNS problems; Logging features Performance monitoring utilities; Windows Management Instrumentation (WMI) and Platform Software Development Kit (SDK).

WHOIS (pronounced as the phrase who is) is a query and response protocol that is widely used for querying databases that store the registered users or assignees of an Internet resource, such as a domain name, an IP address block, or an

autonomous system, but is also used for a wider range of other information. The protocol stores and delivers database content in a human-readable format. [4]

At least one major attempt will be made to create an alternative DNS, backed by a government or state. Additionally, at least one large-scale commercial venture will do the same. The government entity may succeed, but the commercial venture will fail unless it is also backed by a major government, if for nothing more than sheer lack of profit, unless it fulfils a specific niche market, such as some network built on the Internet for a special purpose such as high security. Alternatively, attempts by governments to control DNS and the Internet, such as copyright-related domain name seizures executed by the United States in 2011 [5] or attempts to seal off parts of the Internet in politically volatile regions [6], may lead to the adoption of a peer-to-peer based DNS.

Uneventful IPv6 DNS conversion will be relatively painless, as many, if not most, major DNS software packages support the IPv6 version alongside IPv4. As such, any well-maintained site with updated software may very well need only some slight reconfiguration to provide full IPv6 functionality. A far more pressing concern is in the actual deployment of IPv6; in short, DNS is the least of the problems that IPv6 adoption should be concerned with.

The DNS architecture will remain a standard if IPv4 to IPv6 conversion is difficult, converting from DNS to a completely new system will probably not be much better, and have far fewer short-term benefits that are visible to the end user. Any changes will have to be client transparent, as there is far too much software written with DNS in mind to make a switch over feasible except in the most extreme circumstances. IPv6 DNS is designed to address many of these issues, so if and when the conversion of the main Internet to IPv6 is activated, many flaws should, with luck, become irrelevant [7].

DNS will never be perfect. Almost all systems have flaws. Even if the oft-cited IPv6 version of DNS corrects all the major structural flaws in the IPv4-based DNS, it remains under the radar and relatively new, whereas IPv4 DNS is ubiquitous and has been around for over two decades for analysis and dissection by would-be attackers. Furthermore, national governments will always squabble, as will agencies that govern systems like the DNS, whether they are government backed, corporate backed, independent, or otherwise. Ultimately, there will always be problems with the DNS, even if we fix all of those that are in existence; it is, in the end, a never-ending cycle, which, with luck, will continue to induce a net strengthening of the system as a whole.

Another critical factor to influencing the registration of domain name around the world is domain names marketing strategies: The strategies to promote and increase the domain name registration. There is no scientific method to determine a precise value for any domain name, there are some considerations that go into determining a reasonable ballpark value for that domain name you want. Normally, the domain name price based on new registration domain name and normally it's about one year period.

The bundled discount (such as buy-one-get-one-free), volume discount, contract year discount, special discount to registrar with a special status, fixed price discount, domain category discount, seasonal discount and etc. Domain auction lists often include names that have been previously unavailable at a wide range of price points. Good domain names are becoming harder to find. With over 30 million com, net and org domains registered, most of the best domain names have been taken. The expired domain names are names that were previously registered, but where the registration has not been renewed, or where the registrant has defaulted on payment. Also the alternative domains, strictly from a user standpoint, improperly thinking out how each product should be categorized can cause many products from being found by the shoppers. They have to consider carefully any variations that someone else might use, including: Alternate

spellings; Misspellings; Abbreviated /Long-form versions; phonetically similar versions; Plural / singular versions. Premium Resale Domains are priced higher than unregistered domain names based on a variety of criteria including the number of characters in the domain, the number of years the domain has been registered, relevancy and popularity of the keyword, and the traffic it generates.

Domain names services will be given the good impact the domain name registration. The Mobile Web refers access to the World Wide Web, i.e. The use of browser-based Internet services from a handheld mobile device such as a Smartphone, a feature phone or a tablet computer, connected to a mobile network or other wireless network. E-commerce (e-Commerce Website & Merchant Account), the Internet has created a new economic ecosystem, the e-commerce marketplace, and it has become the virtual main street of the world. Providing a quick and convenient way of exchanging goods and services both regionally and globally, e-commerce has boomed. Also the email hosting services usually offer premium email at a cost as opposed to an advertisement-supported free email or free webmail. All above factors will give the positive impact to registration domain name around the world.

Affiliate marketing is a type of performance-based marketing in which a business rewards one or more affiliates for each visitor or customer brought about by the affiliate's own marketing efforts. Domain Names Search Engine: 90% of local shoppers search online first for nearby businesses. Ongoing submissions to top search engines including Google, Yahoo Bing and etc. A social networking service is a platform to build social networks or social relations among people who, for example, share interests, activities, backgrounds, or real-life connections which are given positive impact of domain name registration. Same with the .XXX Domain Names: This sTLD (sponsored top-level domain) is designed specifically for the global adult entertainment industry as a trusted brand, globally recognized and extolling responsible and safe behaviour.

Others factors to influencing the registration of domain name around the world is growth of population. According to OECD/World Bank population statistics, the world population grew by 27%, or 1.423 billion people, between 1990 and 2008. Many of the world's countries, including many in Sub-Saharan Africa, the Middle East, South Asia and South East Asia, have seen a sharp rise in population since the end of the Cold War. Based on report cities in UK domain names and how the population make increase the total domain name registration. The report informs "In 2001 the 50 cities of England were used in over 22,000 domain names. This averaged 441 acs per city.

The story of the commercial Internet in Malaysia began in 1990, when the Malaysian Institute of Microelectronic Systems (MIMOS, now MIMOS Berhad) launched JARING (Joint Advanced Integrated Networking), the first Malaysian ISP. The Malaysian government has been an enthusiastic supporter of Internet technology since the early nineties.

To achieve an informed and computer-literate society, IT and Internet access has two widespread. The online population's example in Malaysia is "infants" and it must be admitted that the level of Internet knowledge is better compared with other developed countries. The e-commerce and e-business scene in Malaysia and around the Asian region is beginning to blossom. E-commerce technology coming to the market and the growing number of internet users buying through the net stimulate the opportunity to expand the marketplace by deploying a cost effective and efficient solution. Malaysia enterprises have to re-act fast to the rapidly changing environment. [8]. The business environment is culturally different in the country. The convenience of time and spatial are not reasons for Malaysian consumers to buy from retail shops instead of shopping online. A growing number of shopping complexes are opening in Malaysia. The largest mall in Malaysia - Mid Valley Megamall has more than 430 shops in five and a half floors. This might be the major competitor to the Internet portal sites. [4].

The main obstacle that prevents Internet users from transacting over the Internet is security. This issue is not only the major concern among Malaysian consumers but of users worldwide. The Internet is still a patch work of private security solutions for parties who already know each other. [8]. The potential of international domains is also enormous. The benefits of international domains are larger audience, demand localization, brand protection and availability.

The economic contribution of .my is the level of total value added to Malaysia's gross domestic product in the industry. This provides a measure of the industry's relative importance to the overall economy. One key reason for domain name registrations is the establishment of a new business, which is less likely to occur during times of economic uncertainty. Based on the Economic and statistical analysis of the .au domain range by .au Domain Administration Ltd and AusRegistry Pty Ltd, December 2011, The economics contribution of .au domain names which is the level of total value added to Australia's gross domestic product by the industry. This provides a measure of the industry's relative important to the overall economy. In this case, the economic contribution estimates measures the activity generated through assisting Australian businesses and individual in getting online, rather than the economic activity generated through their online presence. [9].

Future trends in domain registration also give the impact of registration domain name. In 2005, ICANN's Generic Names Supporting Organization (GNSO) began a policy development process to consider the introduction of new generic Top-Level Domains (gTLDs), based on the results of trial rounds conducted in 2000 and 2003. In 2008, the ICANN Board adopted a raft of specific GNSO policy recommendations for implementing new gTLDs. Amongst the key considerations for the introduction of new top-level domains identified were: Expanding the domain name space to accommodate the introduction of both new ASCII and internationalized domain name (IDN) top-level

domains will give end users more choice about the nature of their presence on the Internet. In addition, users will be able to use domain names in their language of choice. Demand for additional top-level domains as a business opportunity. The GNSO Committee expected that this business opportunity will stimulate competition at the registry service level. [10]. Same with future trends in internet activity: E-commerce refers to consumers purchasing goods and services from online stores rather than in a traditional physical store; The increased use of m-commerce (purchasing using mobile phones); The role of search engines - Search engines are increasingly used by consumers as the starting point for research in a purchasing decision [10]; Social networking - Social media like Facebook, Twitter and etc. are becoming an intrinsic part of modern social life. [10]

The geographical distribution of registrants closely resembles the distribution of the Malaysian population as a whole, with large of activity focused around Kuala Lumpur, Johor, Perak, Melaka, Kuching and etc. Registered .my domain names, by registrant remoteness will categorize: Major Cities of Malaysia; Inner Regional Malaysia; Outer Regional Malaysia; Remote Malaysia; Very Remote Malaysia.

The business environment is culturally different in country. In the United States, stores are not generally a block away from houses as they are in Malaysia. Not only are retail shops nearby, but also shops' and restaurants' business hours extended through a distinctively longer period compared to those found in western countries. As such, the convenience of time and spatial are not reasons for Malaysian consumers to buy from retail shops instead of shopping online. Buying a burger from a shop located two doors away is easier than ordering through the Internet, so why should consumers choose to buy online? Consumer attitudes and behaviour have a big influence on making the decision to buy from the Internet. In Malaysia, the majority of buyers like to do brick-and mortar shopping. One of the shopping malls located in Kuala Lumpur, Suria Mall has 450,000 visitors per week. To visit a

shopping mall has become a kind of Malaysian “weekend activity”; it is a method for some Malaysians to release pressure or spend time with family and friends. They may not necessarily go there to buy anything; it could be for various services that are available in shopping complexes like salons, movies, and bowling alleys. A growing number of shopping complexes are opening in Malaysia. The largest mall in Malaysia - Mid Valley Megamall has more than 430 shops on five and half floors. This might be the major competitor to the Internet portal sites. [4]

The possibility exists that other countries or organizations may start their own domain name registries for their own purposes. This is not the limit for potential political interference in domain name registration. Moves to censor the Internet in western countries such as Italy [11], Australia [12], and the United States [13] join other well-known censorship initiatives in other countries such as China [14]. That the governments of these influential countries seem to be pushing for such movements in their own sphere of influence makes it quite possible that they may move their interests abroad and attempt to exert pressure on ICANN to modify their policy to better fit their demands. ICANN is under the employ of the U.S. Department of Commerce as a contractor and is a private organization with non-profit status dedicated to maintaining the coordination of aspects of the Internet such as the DNS [15]. These services are vital, but ultimately ICANN’s authority is derived by the mutual consent of the Internet community. That authority theoretically could be revoked at any time, and in many cases it would take only a relatively limited amount of legislation to entirely deprive ICANN of power in a country, and possibly many countries. In order to prevent the emergence of alternative domain registrars backed by the resources of a large country, ICANN may need to at least partially acquiesce to such interests.

Third party registrar corruption will reach critical levels: Third party registrars do not seem to have the same spirit of community that helped to build Internet from scratch. Although it is arguable that organizations like ICANN are no

longer in possession of this quality, it is more likely that they at least retain some of the cultural mindset within the organization, not to mention some of the veterans; as such, many of the lower-level, third party registrars will continue to attempt to extract as much profit from their position as possible, even at the possible long-term detriment of the Internet at large. Eventually there will likely be some critical turning point that leads to heavy re-evaluation of the entire system.

Increasing governmental influence, which is as of 2011, legislative action in several countries has indicated that DNS may encounter influence by governments as a method of filtering out undesirable Internet sites, as a result of pressure from both political and corporate forces. This may create considerable problems for its continued acceptance as a standard, as it is likely that the marketplace will gain support for a replacement resistant to external changes, regardless of its legality [16].

Such competition may place considerable strain on the primary implementation of DNS to remain relevant volume 30 Article 21 339 and address the needs of many on the Internet, though it may be questionable how much support such a shift in naming technology could actually gather if it should retain a reputation as contraband or be challenging for a user to install and utilize. It may also endure the abuses DNS already struggles with, as well as additional, unanticipated abuses that may accompany any new technology used in potential replacements. Although highly unlikely, a worst case scenario may result in a period of considerable ambiguity if no single DNS implementation maintains universal global acceptance.

The Uniform Domain Name Dispute Resolution (UDRP) will change significantly and has worked so far, but not without problems. Some shortcomings of the procedure include requisite “bad faith” is ill-defined; complaining parties (often trademark holders) seem to have bias in their favour; the UDRP is not legal arbitration nor binding, allowing litigious intervention; parties such as large, corporate

interests can more easily afford associated costs; and English dominates the process [17]. The UDRP has existed for over a decade [18], providing sufficient experience to learn where it needs improvement [17]. Given the increase in corporate influence on the Internet, as well as public awareness, it is likely that there may be a struggle, with corporate interests gaining the upper hand and possible changes due to backlash; however, given the legal position of the UDRP, it may ultimately end up a supplement to the court system as opposed to an attempt at manifesting a final authority as originally intended.

3 METHODOLOGY

A field research will use mixed method research strategies. The strategy begins with a quantitative method and follows it up with qualitative methods. The first research strategies will use as below steps which is focus on literature review approach as steps below:

- Step1: Searching information of the critical influencing the growth of global domain name.
- Step2: Gathering, reading and analysing the literature from Step1 with collection of information and capture the factors that influence the growth of Malaysia and global domain name.
- Step3: Results from step2 can be categorized into two, namely:
 - a) Analysing, comparing, categories and sub-categories the expectation
 - b) Calculation of basic statistics standard deviation expectation factor.

4 CONCLUSIONS

A research model is proposed to guide future study of critical factors to influencing of domain name registration. The model illustrated in Figure 1, includes the critical factors will impact of influences the domain name registration in DNS

technologies such as hardware and network environment, secure domain names. DNS fragmentation, DNS architecture and etc. This paper not discussed all existing DNS technologies such as domain name process, life cycle, registry and registrar system, EPP, DNSSEC, ENUM, IDN, ANYCAST, NGN, DRIPv4, IPv6 and etc. because all the technologies are direct impact to influencing registration of domain name. Figure 1 shown the conceptual model for encapsulates the impact of domain names marketing strategies, domain names services and other factors that

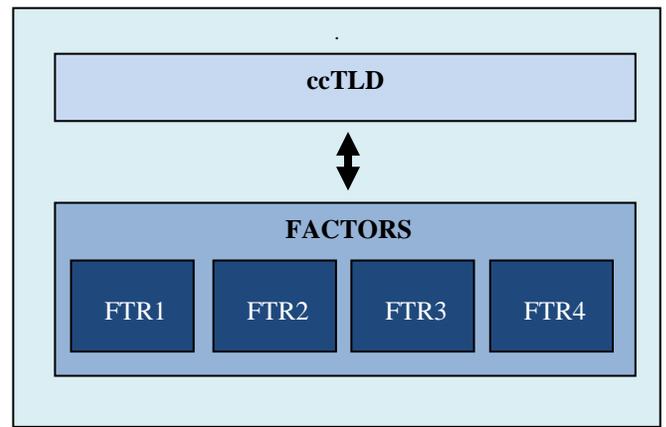


Figure 1. The conceptual model for encapsulates the factors that influencing the registration of domain name.

Note:

ccTLD: Country Code Top Level Domain

FACTORS: Factors to influencing the registration of domain name around the world.

FTR1: Factors of DNS Technologies

FTR2: Factors of Domain Name Marketing Strategies

FTR3: Factors of Domain Names Services

FTR4: Other Factors

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