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# Internet and its Historical Background with Emerging Trends in its User Base: An International Perspective

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***Abstract*** **- The growth of internet has been started with properties of sharing of file and documents among the computers and similar systems. The www, email, News Group, FTP, Internet Relay Chat, Telnet, Voice Communication System lead the rapid growth of the internet services and its application resulted increase user base in almost all the countries around the world. The total internet users touches 40% of the total population in the world as far as 2014 is concerned. Surprisingly the developing world is also moving towards more internet services and user base. Europe Region touches the highest percentages (75%) of internet users among the other regions as reported by the International Telecommunication Union. The paper is highlighted the growing internet users around the world and many features and aspects in relation to this.**
***Keywords:*** **Internet, Information Science, ICTD, WWW, Digital Divide, Internet Divide, Internet Population, Information Overload, Development, India**

## I. INTRODUCTION

Imagine! The growth of the internet has been rise to 3,424,971,277 [30], [31]. The growth of the internet users rises rapidly in recent past in 2005, where the total internet users were 16% worldwide. It is in 2014 touches the share of 40%. Interestingly the less developed countries, regions, countries are also done well in terms of increasing internet base and users. For example in Africa the internet users increased nine times higher from 2005 to 2014; where as in the Americas the growth and development was just around 2 times higher. As on November, 2015 the sharing of internet of Asia is 48.2% where as with all other parts and continents it is about 51.8% [26]. Moreover the internet penetration in Asia of the November, 2015 is also eye catching.

## II.OBJECTIVES OF THE STUDY

The main aim and objective of this paper is includes but not limited to the following.

1. To know about the initial days of the internet and its foundation.
2. To know the growing internet services and features.
3. To learn about the growing users based of the internet.
4. To draw a brief comparison of the internet uses in the world.
5. To learn about the future potentiality and future trends of the internet with services as overview.

## III.INTERNET AND BACKGROUND

Internet is the global information network and more clearly network of networks. The internet offers many kind of services and facilities to the organizations, institutions, Government and common people such as email, telephony, P2P networking, instant messaging, internet forum, social networking, e-commerce, financial services, blogging and so on. The beginning of the internet was installing and implementing 'Packet Switching' with the project of ARPANET. Gradually the internet services have been started in almost all the sectors like healthcare, hospitality, governance, education and academia and so on.

The ARPANET based initial services become popular and commercialized in 1980's. In the early and mid of 1990's the internet became most popular and used in several places and gradually after few years (in the late of 1990's) the services have grown and touches the developing world. Importantly since 1995 and 2015 in the last 20 years the user bases of the internet have grown hundred times. The commercialization of the Internet has introduced several new services (and these are the core reason for rapid internet growth). The internet television, internet telephony have increased rapidly with most importantly the social networking, instating messenger, internet forum, mobile banking and e-banking and so on.

## IV.EMERGING SERVICES VIS-À-VIS INCREASED USERS

There are many reasons for increased users as far as internet is concerned. The main reason is the emerging and various types of services. Though among the other reason few important are

a. Changing and implementing new telecommunication policies worldwide including in the developing and developed world.
b. Cheap and cost reduction to the Internet Service Provider (ISP) and further to the client by the ISPs.

c. Fixing and introducing new norms and policies towards users and uses in internet.
d. Legalization of the use of social networking sites for sharing the views as well as other aspects.
e. Mobilization of the internet related products, features and also services.
f. Offering the earlier private services to the common people with very nominal charges,
g. Flexibility of using internet on various devices and platforms/formats.
h. Easiness and usability in the user interface and whole systems (with implementing proper HCI etc).
i. Uses in wide sectors such as healthcare, transportation, business, commerce, government, education, research and so on.
j. New dimension in the higher education and similar foundation and so on.

*As per the sources of Internet Lives Stats*, internet users worldwide is rising rapidly and as per the International Telecommunications Union data (2014), the world population in 2005 was 6.5 billion and the internet users was only 16% whereas after five years in 2010, the total internet users was touches 30% among the total population (6.9 Billions). Surprisingly, the users in the developing world were 8% compare to 51% in the developed world as far as 2005 is concerned. While in 2010, the number of users increased rapidly and the sharing of users in the developed world touches 67% and the share of developing world rises to 21% from the 8%.

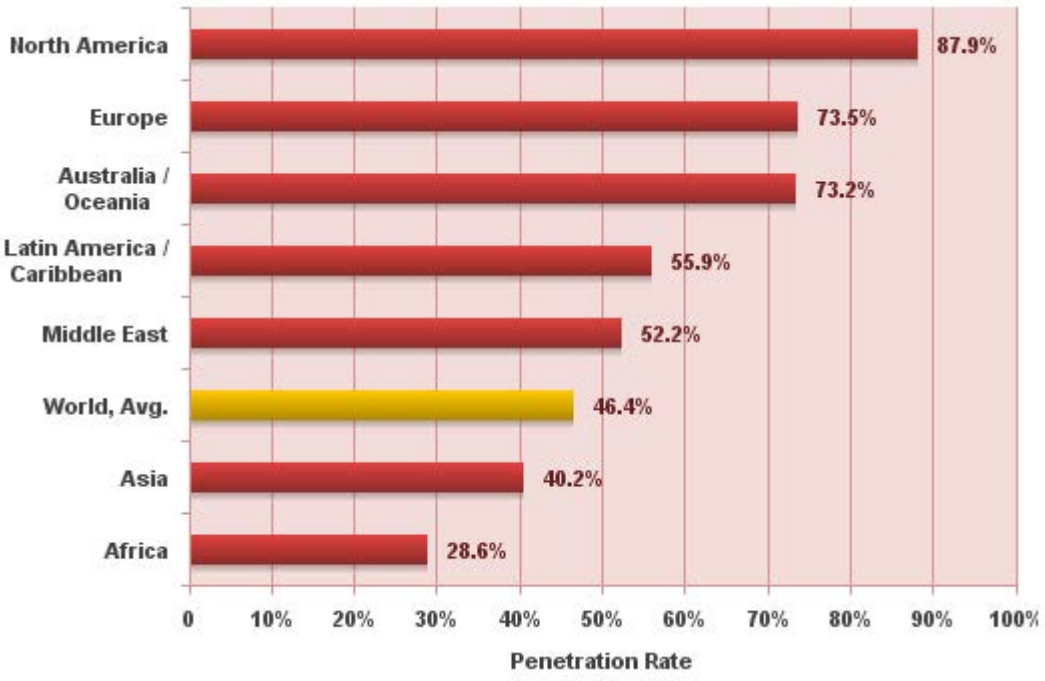


Fig.1 Penatration Rate Of Internet: An International Perspective *(Source: Internet World Stats [24-26])*

Similarly the number of internet users and its rising facts as depicted by the internet world stats provided in Fig: 1. The World Bank in their survey also stated that the internet users rising most advance way and the internet penetration across the world.

As far as the number of users in 2013, the uses have also increased rapidly and in the list many countries figured from the Asian Leagues. The China holds the user base of 721,434,547, India holds 462,124,989, Japan 115, 111,595, Russia 102,258,256, Bangladesh 63,354,000, Indonesia 53,236,719, Philippines 44, 000,000, South Korea holds 41,499,326, Vietnam- 40,597,779, Turkey hold user records of 37, 321, 199.

Pakistan- 34,342,400 whereas Iran holds 25,074, 125, Malaysia holds 19,842,134, Thailand-19,533,675. A list of top 20 countries in terms of users has been provided in Table: 1, *Source: Wikipedia*. Countries are listed based on number of users; though percentage of internet users compare to total population is also provided.

However after India, depending upon number of users the US ranked #3. The total user based is 286,942,362. The 88.22% people have used the internet as per the source. While according to the study of IWS in the Nov, 2015 the total number of users in Asia was about 48.2% (See Fig: 2). While the other continents share 51.8%. The figure of the same depicted herewith. By 2020, it is expected that in each day around 1 billion of Google searches would be happen. Moreover it is expected that 300 million of users would use the blogs and regarding the video it would touches of 2 billion videos daily on the YouTube.

TABLE 1 LIST OF INTERNET USERS IN TOP 20 WITH THEIR PERCENTAGES

| Sl. No. | Countries | Percentage of Internet users *(in total population)* |
|---|---|---|
| 1 | China | 52.2 |
| 2 | India | 34.8 |
| 3 | United States | 88.22 |
| 4 | Brazil | 60.1 |
| 5 | Japan | 89.8 |
| 6 | Russia | 71.3 |
| 7 | Nigeria | 46.1 |
| 8 | Germany | 88.0 |
| 9 | Bangladesh | 39.20 |
| 10 | Mexico | 50.84 |
| 11 | UK | 81.92 |
| 12 | Indonesia | 20.4 |
| 13 | France | 89.46 |
| 14 | Philippines | 43.5 |
| 15 | Egypt | 49.56 |
| 16 | South Korea | 84.77 |
| 17 | Vietnam | 43.90 |
| 18 | Turkey | 46.25 |
| 19 | Italy | 58.46 |
| 20 | Pakistan | 17.8 |

According to the Internet World Stats (IWS), the users of the internet basically prefer English Language (27%) for content usage. While the second position hold by the Chinese Language with share of 25%. Among the European Language the Spanish hold 4% and Portugal and Germany each hold 5%.

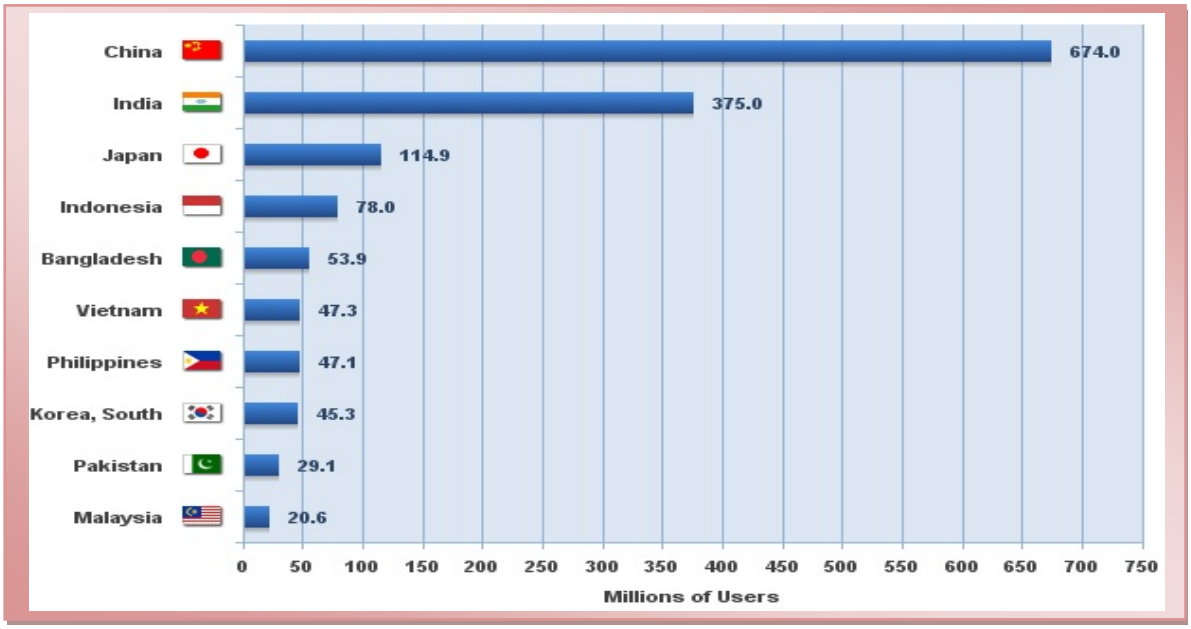


Fig.2 Internet Users In Asian Countries; In Millions Of Users *(Source: Internet World Stats [24-26])*

Several study also reveal that among the male and female users, male dominate female worldwide. Surprisingly in the US men are used internet very slightly ahead of percentage of woman (2005 study). Among the use of internet, the men are mainly prefer jobs like payment of bills, online transaction, official activities, map searching etc while the

women are mainly uses the social networking sites such as Facebook, MySpace, YouTube, Blogs etc. Regarding the videos it is noticed that the man have downloaded more videos where as women basically preferred to see the streaming videos only. According to the Euromonitor (An International Research Firm), the possible users of the internet would touch 44% by the 2020. As far as the highest percentages of users are concerned the Iceland, Norway, Sweden, Netherland, Denmark etc have been touches 90%+. The Internet World Stats listed that in Nov, 2015 the sharing of the Internet users was

a. Asia-48.2%.
b. Eurpoe-18.0%
c. Latin America-10.2%
d. Africa-9.8%
e. North America-9.3%
f. Middle East-3.7%
g. Oceania/ Australia-0.8%.

## V.FINDINGS

1. The IWS shows that in Asia as on November, 2015 the total populations are 4032,466,882 and 55.6% among the world population. Whereas internet users as on 30th Nov, 2015 is about 40.2% and growth is noticeable during the 2000-2015 is 1319.1%. In terms of whole world the total growth is about 832.5%. The internet users as on November, 2015 are depicted in Fig: 2 (*Source: IWS*).
2. According to the IWS study, in November, 2015 the total internet users was 3,366,261,155 and penetration of population was 46.4%.
3. Social media, e-commerce, mobile internet, e-transportation are rapidly increasing in each and every country.

## VI. CONCLUSION

The internet services will grow much more by the next few years and each and every sector will use the internet based on need. The Social Computing and Social Informatics practice will much better with the solid interaction of internet. The internet services and its improvement no doubt requires healthy telecommunication and network policies by the Government of each and every state. The internet foundations, associations such as ICANN, Internet Society etc need to do more on rapid internet accessibility. The corporate social responsibility is also must for the sophisticated internet infrastructure building.

## REFERENCES


[1] DeNardis, L. (2012). Hidden levers of Internet control: An infrastructure-based theory of Internet governance. *Information, Communication & Society*,*15*(5), 720-738.

[2] De Santis, M., De Luca, C., Quattrocchi, T., Visconti, D., Cesari, E., Mappa, I., ... & Caruso, A. (2010). Use of the Internet by women seeking information about potentially teratogenic agents. *European Journal of obstetrics & gynecology and reproductive biology*, *151*(2), 154-157.

[3] Drissel, D. (2006). Internet governance in a multipolar world: Challenging American hegemony. *Cambridge Review of International Affairs*, *19*(1), 105-120.

[4] Dutta, U., & Das, S. (2016). The digital divide at the margins: co-designing information solutions to address the needs of indigenous populations of rural India. *Communication Design Quarterly Review*, *4*(1), 36-48.

[5] Dutton, W. H., & Peltu, M. (2007). The emerging Internet governance mosaic: connecting the pieces. *Information Polity*, *12*(1-2), 63-81.

[6] Gubbi, J., Buyya, R., Marusic, S., & Palaniswami, M. (2013). Internet of Things (IoT): A vision, architectural elements, and future directions. *Future Generation Computer Systems*, *29*(7), 1645-1660.

[7] Johnson, D. R., Crawford, S. P., & Palfrey, J. G. (2004). The accountable net: Peer production of internet governance. *Berkman Center for Internet & Society at Harvard Law School Virginia Journal of Law and Technology*, *9*(9).

[8] Klein, H. (2002). ICANN and Internet governance: Leveraging technical coordination to realize global public policy. *The Information Society*, *18*(3), 193-207.

[9] Kleinw, W. (2004). Beyond ICANN Vs ITU? How WSIS tries to enter the new territory of Internet governance. *Gazette*, *66*(3-4), 233-251.

[10] Leiner, B. M., Cerf, V. G., Clark, D. D., Kahn, R. E., Kleinrock, L., Lynch, D. C., ... & Wolff, S. (2009). A brief history of the Internet. *ACM SIGCOMM Computer Communication Review*, *39*(5), 22-31.

[11] McLaughlin, L., & Pickard, V. (2005). What is bottom-up about global internet governance?. *Global Media and Communication*, *1*(3), 357-373.

[12] Mueller, M., Mathiason, J., & Klein, H. (2007). The Internet and global governance: Principles and norms for a new regime. *Global Governance: A Review of Multilateralism and International Organizations*, *13*(2), 237-254.

[13] Norris, P. (2001). *Digital divide: Civic engagement, information poverty, and the Internet worldwide*. Cambridge University Press.

[14] Paul , P.K., and S K Jena (2012) *"Digital Divide to Information Divide: Contemporary Overview"* in International Journal of Information and Communication Technology, 5 (3/4), 143-147.

[15] Paul, P.K., B.Karn, D. Chatterjee, Poovammal E (2014) *"Social Software Engineering as nonprofit technologies: Trends and Future Potentials for Social Informatics and Digital Humanities*" International Journal of Social Science, 03 (02), 235-242.

[16] Press, L., Foster, W., Wolcott, P., & McHenry, W. (2002). The internet in India and China. *First Monday*, *7*(10).

[17] Raman, B., & Chebrolu, K. (2007). Experiences in using WiFi for rural internet in India. *IEEE Communications Magazine*, *45*(1), 104-110.

[18] Rao, S. S. (2005). Bridging digital divide: Efforts in India. *Telematics and informatics*, *22*(4), 361-375.

[19] Sampath Kumar, B. T., & Basavaraja, M. T. (2016). Computer access and use: understanding the expectations of Indian rural students. *Quality Assurance in Education*, *24*(1), 56-69.

[20] Soma, K., Termeer, C. J., & Opdam, P. (2016). Informational governance–A systematic literature review of governance for sustainability in the Information Age. *Environmental Science & Policy*, *56*, 89-99.

[21] Venkatesh, V., Rai, A., Sykes, T. A., & Aljafari, R. (2016). Combating Infant Mortality in Rural India: Evidence from a Field Study of eHealth Kiosk Implementations. *Mis Quarterly*, *40*(2), 353-380.

[22] Weiser, P. J. (2001). Internet Governance, Standard Setting, and Self-Regulation. *N. Ky. L. Rev.*, *28*, 822.

[23] https://en.wikipedia.org/wiki/Internet (Accessed on 25-06-2016)

[24] http://www.internetworldstats.com/stats.htm (Accessed on 25-06-2016)

[25] http://www.internetworldstats.com/top20.htm (Accessed on 25-06-2016)

[26] http://www.internetworldstats.com/stats3.htm (Accessed on 25-06-2016)

[27] http://timesofindia.indiatimes.com/tech/tech-news/Global-internet-speed-rises-India-lags-at-2-8-Mbps/articleshow/51561625.cms (Accessed on 25-06-2016)

[28] http://timesofindia.indiatimes.com/tech/tech-news/Google-Internet-users-in-India-to-touch-500-million-by-2017/articleshow/51077664.cms (Accessed on 25-06-2016)
[29] http://timesofindia.indiatimes.com/tech/tech-news/IAMAI-Indias-internet-user-base-to-hit-402-million-second-highest-in-the-world/articleshow/49816190.cms (Accessed on 25-06-2016)
[30] http://www.internetlivestats.com/internet-users-by-country/ (Accessed on 25-06-2016)
[31] http://www.internetlivestats.com/internet-users/india/ (Accessed on 25-06-2016)
[32] https://en.wikipedia.org/wiki/Internet_access (Accessed on 25-06-2016)
[33] http://www.statista.com/topics/2157/internet-usage-in-india/ (Accessed on 25-06-2016)
[34] http://www.business-standard.com/article/economy-policy/internet-users-in-india-to-cross-500-mn-in-2016-prasad-116050401237_1.html (Accessed on 25-06-2016)
[35] https://en.wikipedia.org/wiki/List_of_countries_by_Internet_connection_speeds (Accessed on 25-06-2016)
[36] https://en.wikipedia.org/wiki/List_of_countries_by_number_of_Internet_users (Accessed on 25-06-2016)
[37] http://indianexpress.com/article/technology/tech-news-technology/mobile-internet-users-in-india-to-reach-371-mn-by-june-2016/ (Accessed on 25-06-2016)
[38] https://en.wikipedia.org/wiki/Videophone (Accessed on 25-06-2016)
[39] https://en.wikipedia.org/wiki/Telecommuting (Accessed on 25-06-2016)
[40] https://en.wikipedia.org/wiki/Internet_fax (Accessed on 25-06-2016)
[41] https://en.wikipedia.org/wiki/Fax (Accessed on 25-06-2016)
[42] https://en.wikipedia.org/wiki/Audio_over_IP (Accessed on 25-06-2016)
[43] https://en.wikipedia.org/wiki/Voice_over_IP (Accessed on 25-06-2016)
[44] https://en.wikipedia.org/wiki/Mobile_VoIP (Accessed on 25-06-2016)