

Analysing usability and accessibility of India's three popular commercial websites – Rediff, Indiatimes and Sify

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Using various web analyzer tools like Google Trends, Yahoo Site Explorer, Alexa and Smartviper, the present study assesses the usability and accessibility of three popular Indian commercial websites, rediff.com, indiatimes.com and sify.com. It was found that rediff.com is more used among the three. It was also found that for the three websites, queries related to air fare, family guy and live cricket match score were common. Users also visited these websites to know about stock market news, business news, cricket news, etc. The study finds that there are differences between website designers' assumption about popularity of a page and audiences' actual interests. The study concludes that it may be worthwhile to verify audience interest while creating web pages, which ultimately helps to gain business through advertisement.

Introduction

Internet is emerging as one of most popular media ever invented. As a tool, the internet is used in governance, learning, business, economy, entertainment, and several other fields. Internet usage in India is growing rapidly. As indicated in the Point Topic, 2009 report, a less populated country like Hong Kong has more broadband connections than India¹. Considering the recent statistics shown in Internet World Statistics², there were 100 million active internet users (users who have logged on to the net at least once in a month) in India in 2010, constituting 8.4 percent of the total population. The report also states that seventy percent of people who know how to use computers have used internet. Statistics about internet usage considering age group and gender shows that 19-40 years age group constitutes nearly 85 percent among total internet users. Of this age group, eighty five percent are male while remaining fifteen percent are female. While considering the total female internet users (not necessarily on age group of 19-40), the statistics shows there are 11 percent are working women, 6 percent non-working women and 2 percent are housewives who uses internet. The rise of internet usage all over the world has unlocked various new businesses, products and services. Internet is constantly changing the way consumers shop and businesses sell their products. Any business related to

any niche is aware about the importance of internet and creating a website to promote their products is a basic way that the internet can be used. In order to get worldwide visibility, there is a continuous effort by every organization to develop an effective website to attract its customers or clientele. Developing a user-centered design is core to website creation and the fundamental principle of website analysis is to provide professional site optimization ideas to clients, i.e., how the website can be optimized by adjusting or readjusting the keyword density, meta tags, internal links structure, on-page content, website design, etc³. A comparative analysis is necessary to see which factors are working for rival websites and to identify the approaches which can work for client's website. The present paper is an attempt to judge usability of websites through India's three commercial website: rediff.com, indiatimes.com and sify.com. The three commercial websites have similar services and have been around for a comparable period of time.

Rediff.com

The domain was created on February 8, 1997 and is one of the leading portals which covers Indian news, Hindi movies, photos, videos, live cricket score, stock updates from Bombay Stock Exchange and National Stock Exchange, Bollywood news, online shopping, social networking and the webmail, Rediffmail. Rediff.com has a three-month global Alexa traffic

rank of 147 with the site's users being disproportionately Asian. Visitors to rediff.com view 8.2 unique pages each day on an average.

Indiatimes.com

This web portal is hosted by the Times of India media group. Like rediff.com, Indiatimes.com is also 14 years old and is a news-centric website that also provides a webmail facility. Indiatimes's three-month global Alexa traffic rank is 173 and this site is also appeals more to Asians. Visitors to the site spend roughly six minutes per visit to the site and 46 seconds per page view.

Sify.com

Sify.com is one of India's Top five web portals. It began commercial operations in April 1998. It provides latest updates on Indian sports; especially cricket, movie news, images, videos finance news, stock market tips, the webmail-Sify Mail, Indian recipes, astrology, online shopping, etc. The site is at 835th position in global Alexa traffic rank, and visitors to the site spend approximately 49 seconds on each page view and a total of five minutes on the site during each visit.

Review of literature

Analysing website usability and accessibility is a new domain of research, mostly used in marketing research. Kaushik⁴ discusses how to move beyond clickstream analysis (clicking behaviour while Web browsing or using another software application) and why qualitative data of website usage should be focused upon. This study gives insights and highlights the techniques that help to develop a customer-centric mindset without sacrificing a company's bottom line. Similarly, Clifton⁵ and Plaza⁶ also studied usage of website by using Google Analytics. These two studies analysed the effectiveness of visits (return visit behaviour and length of sessions) depending on their traffic source: direct visits, referring site entries and search engine visits. Similarly, Sterne's⁷ work on web analysis mainly focused on who (ip address, user), when (timestamp relating to GMT), what (request, protocol, response, kB) and how (referrer, browser) issues of web analysis. In yet another study Fourie⁸ attempted to alert researchers to software for web tracking of information seeking behaviour, and to offer a list of criteria that will make it easier to select

software. Peterson's⁹ study explains various tools, techniques, and strategies for measuring their site's overall effectiveness. One can learn the definitions of commonly used terms, how to gather crucial marketing data, how to drive potential customers to action, and more. It's the technology companion that every site operator needs.

Objectives of the study

The main objective of this paper is to compare the popularity of three Indian websites, rediff.com, indiatimes.com and sify.com. The specific objectives are:

- To compare the daily visits to the selected websites for a particular time span,
- To understand the popularity of the three websites in other countries,
- To identify the important subdomains of the three website,
- To identify the most common search queries that leads search engines to these websites, and
- To study the inlinks to the three selected websites.

Methodology

Data on the daily reach, audience pattern, users' search queries and important inlinks of rediff.com, indiatimes.com and sify.com were obtained by using various web analyzer tools like Google Trends, Yahoo site explorer, Alexa and Smartviper during the 1st week of February 2011. The four web analyzer tools were used for different purposes and mean values have been considered for analysis.

Results

Daily Reach

Reach measures the number of users and is typically expressed as the percentage of all internet users who visit a given site. The term 'daily reach' means how many internet users reach the website every day. Web analytic tools normally count the daily reach in per million users basis. If any website has 0.1 daily reach, it indicates that on a random sample of 1 million internet users, that particular website have been visited by 0.1 million users daily. Figure 1 is a

Table 1—Overall traffic ranking

Website	India	UK	USA	Other countries with significant viewership of the websites
rediff.com	10	1,415	969	UAE, UK
Indiatimes.com	12	410	546	UAE, Bangladesh
Sify.com	66	3,495	4,748	Pakistan, Bangladesh

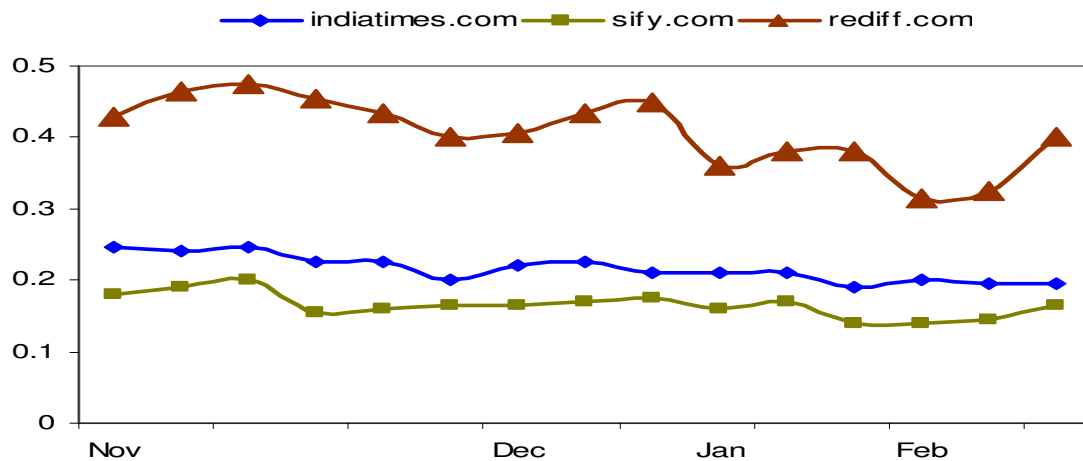


Fig. 1—Comparative daily reach of Indiatimes, Sify & Rediff

comparative of daily reach during the three months, November and December 2010, and January 2011. The daily reach was obtained by calculating mean value of daily reach of three sites analysis tools, viz., Google Trends, Yahoo Site Explorer and Alexa. As indicated in figure during the three months, rediff.com is consistently attracting more users than Indiatimes.com. The site of Sify.com is less visible as compared to the other two.

Traffic rank

The traffic rank is based on three months of aggregated traffic data as counted by various web analytic tools, and is a combined measure of page views and users (reach). The rank is calculated using a combination of average daily visitors to a particular site and page views on that site over the past 3 months. The site with the highest combination of visitors and page views is top ranked.

As indicated in Table 1, rediff.com had more visibility in India during the three months of the study. However, indiatimes.com is more popular in the USA and the UK than rediff.com. The traffic rank as measured by Alexa for sify.com is higher than

what is mentioned on Sify's website. The possible reason behind this may be that the traffic rank mentioned here is on the basis of three months traffic, while sify has not mentioned any time-frame of their traffic on their website.

Audience interests

Audience interests represent the aggregate interests of visitors to any given website. Audience interest is a measure to know how many times (in a month) and why more likely a user visited a site for his/her needs. The audience interests were measured in two terms: region wise audience and preferred keywords of the audience. By combining an understanding of a website's demographic appeal with the range of interests of the audience the site attracts, advertisers can get a more complete picture of who they will reach by advertising on the site. Only names of those regions have been mentioned where a number of users used these three websites during the period of study. The mean value of various web analyzer tools is used here for discussion and analysis.

As indicated in Table 2, rediff.com attracts more audience from Mumbai while indiatimes.com has

Table 2—Audience interests in different states

State	Rediff.com	Indiatimes.com	Sify.com
Bihar	65.8x	65.5x	79.6x
Karnataka	48.6x	54.1x	65.6x
Maharastra	73.3x	58.4x	NA
Orissa	62.0x	NA	80.4x
Rajasthan	NA	NA	64.2x
Tamil Nadu	59.2x	48.5x	59.2x
Bangalore	53.5x	53.9x	65.4x
Chennai	44.1x	53.3x	64.6x
Delhi	49.3x	65.5x	52.3x
Kolkata	53.5x	53.4x	64.8x
Mumbai	69.5x	59.8x	59.7x

Note: x attached with the figure represent the affinity. Although the site is not about for that particular region, it scores a n_x affinity of audiences of that region, which means visitors of that region are n_x times more likely to be interested in that particular website than others.

more audience from Delhi and sify.com from Bangalore. Access from Bihar, Orissa and Rajasthan is also interesting, as the affinity rate of these places is more than 50 percent. In an earlier study in 2010¹⁰, it was found that Mumbai had most number (nearly 3.24 million) of internet audience, followed by Delhi, Bangalore, Kolkata and Chennai. Comparing the findings of the present study with the earlier study it can be said that in addition to the metropolitan cities, there is an increase in popularity of internet users in India in various cities/town etc.

Table 3 gives the search engines' phrases that drive traffic to the selected websites. For example, if any visitor's interest was to know "lowest air fare" and s/he searched it using any popular search engine, the search engine ranked the rediff.com higher than the other two sites. This list also includes sub-phrases that account for a high percentage of this site's search traffic broken out separately. It has been ranked according to the level of popularity in different analytic tool. A low value indicates that rediff.com got significant organic search (Organic search describes a search that returns results by indexing pages based on content and keyword relevancy. This is in contrast to listings ranked based on who paid the most money to appear at the top) traffic for queries containing these phrases, despite high advertising c

In spite of the fact that the three website provide similar services, it was seen that the three website had

visitors searching for different information on the three websites. Rediff.com had air fare, family guy, money games, shopping etc., as keywords whereas indiatimes.com had different types of news papers, movies etc., and sify.com for cricket (particularly live cricket), product costs etc. Any website administrator can use such data to know their worthiness of web presence.

The algorithm to display hits by search engines is an undisclosed issue. Getting audience for a particular key phrase is an indication that search engines index these websites in better rank for that particular search term than other parallel websites. It helps advertiser decide to pay more or less for a particular advertisement. For example, to plan an ad campaign for hotel, travel etc., the company may find rediff.com more suitable than other two, despite the fact the three websites contains same type of information on the areas of travel and tourism.

Popular pages

The popular pages of a website are selected according to the totality of external and internal factors. While external factors are measured by counting number of links that lead to a site, internal factors includes number of things like, keyword counting in Heading 1, Heading 2 and Heading 3 tags (these tags are used by web page designers while preparing websites), links, meta-tags, internal links, non-duplicates contents etc. It is important to identify these pages

Table 3—Top search queries

Website	Search query	Rank
rediff.com	air fair →lowest air fare	1
	family guy → watch family guy	2
	Money→ shares	3
	IPL → IPL auction	4
	kingfisher calendar 2011	5
	online shopping	6
	Sms →hindi sms	7
	tin nsdl	8
	Union bank of India	9
	Bank baroda	10
indiatimes.com	times of india	1
	economic times	2
	navabharat times	3
	IPL →IPL auction	4
	Youtube → videos	5
	haryana times	6
	maharashtra times	7
	tees mar khan review	8
	Wikileaks	9
	Kbc	10
sify.com	Cricket →India vs south Africa	1
	live cricket score	2
	IPL → IPL auction 2011	3
	Kingfisher calendar 2011	4
	gold rates in India	5
	sports news	6
	wwf raw	7
	News	8
	Youtube	9
	axis bank	10

because when optimizing and developing the site, one needs to pay attention to these pages. Table 4 explains popular pages of three different websites and ranks different subdomains according to the audience volume.

While comparing the popular pages of these websites it was found that each website has different popular pages and users access these websites for different reasons. When a user wants to know money market like BSE, NSE their choice mostly orients towards rediff.com. However, when a user wants to know detailed information about money market etc., they prefer indiatimes.com. Sify.com is mostly used when there are certain cricket matches. The email services

of indiatimes.com was found to be less popular than that of rediff.com and sify.com.

Company Weight Vs Audience Interest

While preparing a page, webpage designers keep in mind the audience group, their interests and write program accordingly by adding necessary parameters at the tags like H1, H2, H3 etc. By doing so it attracts audiences towards that page as search engines indexes pages using these tags. During the course of time, some pages of a website become more popular than the others. And in spite of best efforts of the webpage designers, some of the best-chosen webpages of a company remain less popular among users. These two factors have been named as CW and PW: CW stands for company's best chosen pages and PW for pages which audiences found useful.

The Table 5, ranked according to public interest, tries to explain whether there are any differences between interests of webpage designer/company and the public who uses that page? Under the column CW, that the company assumed will be popular is given. Under column PW, the terms that became popular by audience choice after the page actually had been used is given – i.e. audience clicked those pages while search engines direct these website for that particular keyword/term. It is seen that that is variation in CW and PW indicating the difference between the company's perception of webpages that will be used and the actual usage of the webpages by the users. The company's keyword weight has been obtained by considering website internal factors: the presence of the keyword in meta tags (description and keywords tags) and in H1, H2 and H3 heading tags. The document structure, internal linking of the site has been analysed. Search engines take into account the presence of the keyword in the title and tags, calculates the percentage of the keyword in the text of the page, evaluates bold and italic tags, etc and other factors which no search engine ever discloses.

As indicated in Table 5, except in rediff.com, most of the company's choice is different than that of user choice. Audiences mostly prefer rediff.com or sify.com to know the stock market news, business news, online shopping and political news. To know about hotels, travel audiences prefer indiatimes.com. Cricket news of rediff.com, general news of indiatimes.com and astrology of sify.com have least choice.

Table 4—Popular pages

Website	Subdomain	Rank & Description
rediff.com	Rediffmail	1 Email service of Rediff
	money.rediff.com/	2 Rediff MoneyWIZ
	ishare.rediff.com	3 Video, Video-Clips
	shopping.rediff.com	4 Rediff Shop & Gift – Online shopping
	rediff.com/movies/	4 Rediff Movies
	mypage.rediff.com/	5 Creating Personal pages
indiatimes.com	TimesofIndia	1 Times of India – News paper
	economic time	2 Economic Times News paper
	Photography	3 Hot photos, celebrity photos, bollywood photos etc.
	Navbharattimesd	4 Navabharat Times news paper
	Shopping	5 Online shopping
	Cricket	5 Cricket, Latest Cricket Scores
	Movies	5 Entertainment New, Latest Entertainment News
	Email	5 Indiatimes E-mail
	Netspider	5 Advertising Solution
sify.com	scores.sify.com/	1 Cricket Score(S) by Sify sports
	mail.sify.com	2 sify mail
	games.sify.com	3 Free Online Games
	search.sify.com	4 Sify Search (powered by Google)
	food.sify.com	5 Bawarchi, Indian Food recipes
	sify.com/finance/	5 Indian Business News

Table 5—Company's Weight Vs Audience Preference

rediff.com			indiatimes.com			sify.com		
Pages	PW	CW	Pages	PW	CW	Pages	PW	CW
Stock Market	1	2	Website Design	1	5	Stock Market/Latest	1	5
News/Market News						Updates/Online Shopping		
Business News/Political	2	5	Travel/Hotels	2	4	Business Finance/Finance	2	3
News						News/Market Tips		
Latest News/Breaking	3	4	Mobile	3	5	India News	3	2
News								
Bollywood News	4	1	Email	4	4	Movie News/ Telegu Movies	4	4
Cricket News	5	3	Videos/Entertainment	4	3	Tennis/Cricket	5	1
			/Movies					
			News	5	2	Astrology	6	1
			Game	6	4			
			India	7	1			

CW=Company Weight, PW=Actual Popularity Weight

Table 6 represents important backward links/inlinks that these website have. We have measured these inlinks by using three tools: Google analytics, Yahoo site explorer¹¹ and Alexa. There are so many links directed towards any of these website, however, but the top ten site inlinks are given here. Inlinks from

various search engines and directories like Google, Yahoo and social network sites like Twitter, Orkut, Facebook, Blogpost, etc., have been excluded because to get more traffic through search engines, every website mentions a link to these search engine/social network sites.

Table 6—Important inlink

rediff.com	indiatimes.com	sify.com
Top 1000 sites - DoubleClick Ad Planner	Indiatimes	Khoj
en.wikipedia.org/?title=Venus_Williams	en.wikipedia.org/wiki/Indians_in_China	en.wikipedia.org/wiki/11_July_2006_Mumbai_Train_Bombings
South Asia Terrorism Portal	Metacafe - Best Videos & Funny Movies	Bawarchi, Indian Food Recipes, Indian Cooking Recipes, Veg ...
RealClearWorld - Links	SEO - Search Engine Optimization Read SEOmoz, Rank Better	Crayon's News Sources
The Internet Movie Database (imdb)	Odp - Open Directory Project	Bbc News News Front Page
Unixdaemons.com - Free Shell And Hosting Service	HubPages	WalletWatch
Internet & Mobile Association of India	Myopera	Fifty Ways to Take Notes
Wall Street Executive Library - The Web's Best Business Sites	SimplyMarry.com	Internet & Mobile Association of India
The Indian Economy Blog	Yahoogroups	Spiegelonline
India Uncut	www.answers.com/topic/sachin-tendulkar	Videogamespot

Discussion

The fundamental principle of website analysis is to provide professional site optimization ideas to clients i.e., how the website can be optimized by adjusting or readjusting the keyword density, meta tags, internal links structure, on-page content, website design, etc. Website usability analysis is an important tool to attract more, highly qualified visitors and in turn more visitors into loyal customers. So, evaluation of complete website helps webmasters to redesign the website and information architecture (IA) directs visitors effortlessly to their desired online destination. A comparative analysis is necessary to see which factors are working for rival websites and to identify the approaches which can work for client's website. There is a growing user base of internet from all over the India, and peoples from small towns, villages etc. are using internet. So site owner must keep it in their mind while preparing their websites.

According to the report of Internet & Mobile Association of India (IAMAI), Indians go online for a number of activities including e-mail and IM (98 percent); job search (51 percent); banking (32 percent); bill payment (18 percent); stock trading (15 percent); and matrimonial search (15 percent)¹².

As indicated in this study, rediff.com seems to have more popularity among the users from Maharashtra.

Indiatimes.com is more popular outside India. When the query is related to air fare, most of the search engines redirect queries to rediff.com and in the case of indiatimes.com, it is related to economics related matters and to sify.com when the query is related to games, especially cricket.

Comparing the companies' weightage about a page and audience interests, it is found that there are some differences. Rediff puts least attention toward bollywood news however these pages/directory is popular among users. Similarly sify's tennis news is quite popular among users in spite of the fact they put least attention towards such news.

Comparing the inlinks of these three website one may conclude that rediff.com is more popular in commercial world due to that commercial websites like Google Ad planner, RealClearWorld – Links, The Internet Movie Database (imdb) have external link to rediff.com. While Indiatimes.com is popular among scholarly community and due to that websites of Metacafe - Best Videos & Funny Movies, Open Directory Project are linked toward indiatimes.com. Sify.com has mostly commercial audience.

Study and analysis of inlinks is crucial for website analysis, as it can be used to understand the authoritative usability of site. Nonetheless, analysis of subdomain leads to judge whether it matches to the

mission of the organization and the needs of the audience or not.

Conclusion

The three websites chosen in this study are popular in the Indian context and the services offered by these three websites are more or less similar. . The intention behind this brief exploratory study is to open new paths of research with regard to user-friendly in-house website tracking for academics, a method that could be interesting for a wider audience. The data are based on the set of techniques of different web analytic tool, which may not be a representative sample of the global internet population. To the extent that the result of the present study may differ from the actual traffic to any particular site. However, this is one of the unexplored areas of web research in Indian context and one can take similar project by selecting different set of data. As there is a continuous increase in number of internet users in India, it is likely that the Indian internet user base will see phenomenal growth in the coming years with the advent of 3G and 4G technologies, and inexpensive gadgets such as phones and tablet devices, to access the internet with. With the middle class communities taking to the internet wholeheartedly, we think it is just a matter of time before India gets as proficient in the use of internet as the US or the UK.

Why use these web analytics? Most importantly for the purpose of this study, these tools are used because they provides time series data. Moreover, all these analytics are free service offered by reputed internet based companies like Google, Amazon, Yahoo and the data generates detailed statistics about the visits to

a website. Users and certainly the webmasters will be able to compare the behaviour of visitors who were referred from search engines and emails, from referring sites and direct visits, and thus gain insight into how to improve the site's content and design.

References

1. Mankani Y, *Internet Usage Statistics of India – A 2010 report*, 2011. Available at: <http://www.goospoos.com/2011/01/india-internet-broadband-users-gender-age-statistics-2010/> (Accessed on 25 June 2011)
2. Internet World Stats, Usage and population statistics. Available at: <http://www.internetworldstats.com/asia.htm> (Accessed on 25 June 2011)
3. Arikian A, *Multichannel marketing: metrics and methods for on and offline success*, (Sybex, New York), 2008, 34.
4. Kaushik A, *Web Analytics: An Hour a Day*, (Sybex, New York), 2007.
5. Clifton B, *Advanced Web Metrics with Google Analytics*, 2nd edn (Sybex, New York) 2010, 31.
6. Plaza B, Monitoring web traffic source effectiveness with Google Analytics: An experiment with time series, *Aslib Proceedings*, 61(5) (2009) 474–482.
7. Sterne J, *Web metrics, Proven Methods for Measuring Web Site Success*, (John Wiley & Sons, London), 2002, 174.
8. Fourie I and Bothma T, Information seeking: an overview of web tracking and the criteria for tracking software, *Aslib Proceedings*, 59 (3) (2007) 264-284.
9. Peterson E T, *Web Site Measurement Hacks*, (O'Reilly e-book, New York), 2005, 55-56
10. Op. cit 1
11. Mortensen D R, *Yahoo! Web Analytics*, (Sybex, New York) 2009.
12. Internet Usage Stats and Telecommunications Market Report. Available at: <http://www.internetworldstats.com/asia/in.htm> (Accessed on 04 August 2011).