Analysis of the Online Behavior of Global Internet Audiences

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Abstract

In a world that is swiftly moving towards an environment where online interactions occupy an increasingly greater proportion of people's working and leisurely hours, it would be beneficial for the business community to seek out ways to better understand the online behaviors of its Internet audiences. Online behavior can be measured in different ways. We classify these measures into three major categories: clickstream, stickiness, and reach. *Clickstream* measures the genealogy of website visitation, and is comprised of the sites that were visited just before entering the target site (upstream), and just after leaving the target site (downstream). *Stickiness* measures how effective a website can hold the attention of its visitors. Web metrics for stickiness may include average stay (in minutes), attention, daily attention, page views, and pages per visit. Finally, *reach* measures how widely a website may attract its potential audience. Web metrics for reach may include daily reach, number of visits, and the number of unique visitors. Actual statistics were obtained from three major web-analytic data providers: Alexa.com, Compete.com, and Quantcast.com. We chose these providers based on the amount of available data, and the comparable reliability of their data. These data were compared and analyzed to determine trends and patterns in the browsing behavior of internet visitors to the top-20 websites in several domain areas. The findings is discussed in the context of how e-business marketing professionals and web designers , may reach out more effectively to their targeted audience.

Introduction

To better understand the online behavior of global internet audiences, we chose to investigate the behavior of visitors to the top-20 websites in12 different domain areas:

- Overall
- Entertainment
- Finance & Banking
- Internet/Online Service
- Health
- News & Media
- Search Engine/Portal
- Recreation/Sport/Travel
- Reference/Knowledge/Education
- Shopping/E-Tailor
- Society/Social Networking
- Corporation

Three online behavior measures were used in each case: clickstream, stickiness, and reach.

- Clickstream measures the upstream site from which the visitor comes from and the downstream site to which the visitor goes to, after visiting the current site.
- Stickiness measures how well a website can hold the attention of its visitors. Actual metrics include average stay, attention, page views and pages per visit.
- Reach measure how widely a site appeals to visitors. Actual metrics include pageviews, unique visitors, and number of repeat visits.

Method

Reliable web traffic data are difficult to get. In this study, we consolidated data from three sources: Alexa.com, Compete.com, and Quantcast.com, all of which are acknowledged leaders in web analytics. Alexa has the most comprehensive set of historic data while the other two are more transparent in their data collection methodology.

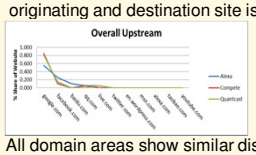
The traffics data in this paper cover the online activities of a sample of Internet users over a 2-year period from July 2008-July 2010. To provide some indication of the reliability of these traffics data, the sample size for each provider is estimated as follows:

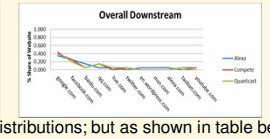
- Compete: 2 million users
- Alexa: 10 million users
- Quantcast: 10 million users

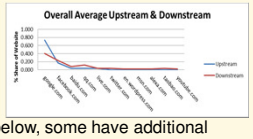
Results and Discussions

Clickstream

These graphs show what percentage of visitors to the top-20 most popular websites came from a given upstream site or went to a given downstream site. The dominance of Google both as an originating and destination site is clear.





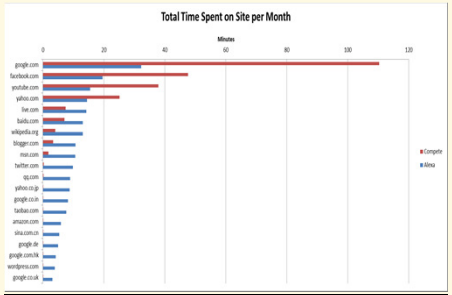


All domain areas show similar distributions; but as shown in table below, some have additional "champion sites" other than the four giants: Google, Facebook, Yahoo, and Bing/Live.

Category	Champion Site	Category	Champion Site
Entertainment	Youtube.com	Recreation/Sport/Travel	Priceline.com
Finance & Banking	Td.com	Reference/Knowledge/Education	Nil
Internet/Online Service	Msn.com	Shopping/E-Tailor	Nil
Health	Realage-mail.com	Society/Social Networking*	Twitter.com, Baidu.com
News & Media	Imgur.com	Corporation	Barbie.com
Search Engine/Portal	Drudgereport.com		

Stickiness

The most intuitive measure of stickiness is average stay (minutes) on a site illustrated on the right . Both Alexa & Compete show similar results (r=.67) with Google leading, followed by social network sites, facebook & youtube, then yahoo & live. Another measure of stickiness is daily (monthly) attention, i.e. the percentage share of daily (monthly) visits to a given site. Attention measures something different, as its correlation with average stay is very low (r= .33 to .37).



r(Monthly,Daily)	r(Monthly, Avg Stay)	r(Daily, Avg Stay)	r(Alexa, Compete)avg stay
0.95533984	0.337523811	0.373503605	0.670940782

Reach

There are 3 ways to measure reach: daily reach (%), number of visits, and unique visitors. The value of the correlation coefficients between them seem to indicate that each measures slightly different aspects of the reach concept. Comparison of the three providers shows that Compete and Quantcast are more similar to each other than Alexa.

r(Alexa, Compete)daily reach	r(Compete,Quantcast)visits	r(Compete, Quantcast)unique visitors
0.710014995	0.918507119	0.834476225

r(Daily Reach, Visits) Compete	r(Visits, Unique Visitors) Compete	r(Unique Visitors, Daily Reach) Compete
0.931740785	0.905158289	0.846750073

Conclusion

This research investigates the online browsing behavior of global Internet audience. Visitors to the top-20 websites in 12 domain areas were examined. There are different ways to measure online behavior: clickstream, stickiness, and reach. Even within each of these categories, there are a variety of metrics that can be used, and each of which measures a different aspect of the online browsing behavior. Web designers wishing to maximize the impact of their website must optimize the site on a multiple sets of measures and not just on a single dimension.

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