Digital Broadcast Media

MU 60012E

StumbleUpon
Report

Assessment 2:
Group Research Project

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Introduction

The digital broadcast technology chosen for this report is StumbleUpon. This is a personal recommendation social bookmarking service which allows users to 'stumble' through the vast amount of content on the Internet. In the wake of the public actively choosing, sorting and sharing the broadcasted content instead of a broadcaster doing so, a large number of people are availing of recommendation sites. As StumbleUpon is a forerunner in this form of online media, the following sections discuss the different aspects of it's existence. Ross Drysdale has researched and reported on how it works and the technical aspects, Darren Jennings has explored it's competitors and stance in the market, Josh Fairhead has unearthed the evolution and development while Miguel De Campos has delved into the economic and financial aspects of StumbleUpon.

Evolution of StumbleUpon

Background

StumbleUpon was an engine born out of necessity. Co-founder and photographer Garret Camp was frustrated at the lack of a decent way to find the best photo sites online and so turned to his background in clustering technology. Enlisting Geoff Smith and Justin LaFrance they managed to create an early version of StumbleUpon. With the photography problem solved they saw the potential for the technology to work with many different types of media as a form of discovery engine. (CnnMoney.com)

History

StumbleUpon was founded in 2001 by Garrett Camp, Geoff Smith, Justin LaFrance, and Eric Boyd in Calgary, Canada while Camp worked on his masters in Software Engineering, releasing in 2002 the first version of the StumbleUpon toolbar for the Mozilla Firefox browser.

In 2006 the StumbleUpon offices moved to downtown San Francisco and still currently reside there. In 2007 eBay bought StumbleUpon for around $75 million and while in their ownership the user-base grew from 2.3million users to more than 7.4 million as did the advertisers from a few hundred to around 20,000.(Lawson 2009)

In April 2009 co-founders Garrett Camp and Geoff Smith backed by investors (Sherpalo Ventures, Accel Partners and August Capital) bought the company back. Of these investors its worth mentioning that Ram Shriram of Sherpalo Ventures is a Google board member and Accel Partners were one of the original Facebook funders putting StumbleUpon in healthy company. (Crunch base)

Updates and changes

StumbleUpon for the most part has been a Firefox extension with few major updates in terms of features but have been constantly improving their recommendation engine and adding services. A supported version of StumbleUpon was eventually made available for Microsoft's Internet Explorer in July 2006 (Keizer 2006)

At the moment these are the only two Internet browsers that are supported officially, though you can find third party toolbars for various Mozilla based browsers and also for Apple's Safari and the Googles Chrome browser, though currently only older versions of Safari are compatible. (SoyaSoftware)

In December 2006 the company launched the StumbleVideo service, this was basically a way of channel surfing internet video through an AJAX (asynchronous Javascript and XML) interface. The page allows users to click a stumble button which brings up video from popular internet video hosting services such as MetaCafe and Youtube, according to the users interests assessed by the stumble engine (Mahalo 2009). On Feb 12th 2007 StumbleUpon announced the release of a version of StumbleVideo for the Nintendo Wii allowing StumbleUpon into the typical living room. (Liz Gannes**)**

In April 2007 they released the StumbleThru service. This allows users to stumble through partner websites such as *CollegeHumour, Flikr, Wikipedia, The BBC etc.* Its essentially regular Stumbling but refined to one domain; letting users browse large sites with lots of content according to their personal tastes. The partner sites are selected by StumbleUpon as deemed fit and the number is set to increase as they find more 'quality websites' (Ibid).

In order to use StumbleUpon in the past, you would have had to download a supported browser and the StumbleUpon toolbar, but as of September 2008 the company launched a web based version. This is presented in an <iframe> or "inline frame" and offers a simplified interface compared to the toolbar allowing stumblers to log in on a public or friends computer or anonymously as an option. This development has been considered long overdue by some users, though apparently the reason for such a long delay is that Camp and others in StumbleUpon felt that such a move would dilute the number of people who rate/review and submit content. (Cnet)

Another reason the web based StumbleUpon took so long would be because of escape frame javascript. This is to stop other people from framing your webpage with their information added in a sidebar or header etc. This creates problems for StumbleUpons web toolbar since its an iframe. When you stumble a site like this the javascript in the web pages header evaluates whether it actually is at the top of the page and if it isn't it reloads a corrected version. This can allow sites to break out from the web based toolbar and effectively lock the user to the site until they manually type a new address. (Shiran 1999) Stumble treats abuse like this very seriously and removes pages that carry escape frame javascript (Venturebeat)

In May 2009, StumbleUpon launched a service called Su.Pr which is an advanced URL shortener aimed at web-masters. This service allows users to user their own domain name in the shortened address if they choose to rather than Su.Pr/, it allows them to display their popular content on the right hand

side of the new page, it allows users to post the shortened links to Facebook and twitter and schedule these postings, see optimum posting time suggestions, see retweets from twitter and who generates the most traffic and submit the page to StumbleUpon (Tim Ferriss 2009). Offering this type of service would be advantageous to StumbleUpon as it allows web-masters to correctly and accurately index their own sites in StumbleUpons system which will help improve the content provided by its recommendation engine while providing an incentive for the web-masters to do this with its advanced traffic analysis and posting features.

As of December 7th 2009 StumbleUpons redesigned site made it out of Beta testing (the beta was released October 28th 2009). This introduced several interface changes on users account pages; these included a tag cloud, a dynamic visitor list that updates as stumblers receive new visitors to their profile. New features on the actual site include allowing users to search their favorites, updates on recent activity from subscriptions, a faster and improved web toolbar and most notably an accept shares button for new friends; this in particular has been a big issue for people with many complaining on Getsatisfaction.com. (StumbleUpon1)

Subculture

The internet has always had its own subculture mainly based around IRC channels and sites like the 4chan forums with their own in-jokes. StumbleUpon has really added to how quickly these 'memes' can spread and how far the joke can be taken. Because of this StumbleUpon has developed a certain endearment to the internet community and has been the subject line internet comics such as XKCD and has spawned its own set of internet jokes. We even took it as far as using it to research itself by putting StumbleUpon as our only interest into a fresh account. This yielded some worthwhile information as well as random items typical of 'an internet personality' if such a thing existed.

Future

Currently StumbleUpon only monezite on sponsored pages but according to Camp, they plan on doing something similar with StumbleVideo. When StumbleVideo was launched they had only the top four video sources from the web; Google video, Youtube, Myspace and Metacafe but they are constantly adding new ones. Camp remarks that eventually he would like to implement any embed-able video source into StumbleVideo. (Crunch Base)

When StumbleVideo was released it was followed up with a version for the Wii, the company mentioned that this was just an initial experiment and depending on the popularity they may develop other versions for any set top box with an internet connection. If this happens StumbleVideo may eventually become the television alternative that StumbleUpon want it to be (Liz Gannes).

Adding StumbleVideo to every set top boxes would be a rather large task considering how many various types there are, however many people install open source media players on to these set top boxes or on their home media centers. One way of perhaps starting to break into the living room would be to add Stumble functionality to current open source media players such as Plex

or form partnerships with people like Microsoft and Apple, this would undoubtably spread StumbleVideo to the mainstream. At present there is a version of StumbleVideo available for Songbird which is built upon a Mozilla stack allowing StumbleUpon to be run as a 'feather' (Lord 2009).

Around July 2006 StumbleUpon reached 1 million users, 5.5 million by June 2008 and moving into February 2009 StumbleUpon had reached 7 million users (Chowdhry 2009). StumbleUpon currently (Jan 6th) has 8.9m users according to their website and by the looks of it will reach 9 million this month (StumbleUpon.com). Its likely this number will continue to grow quite fast as StumbleUpon gains more mainstream attention, its worth noting that its over twice the size of the better known website Digg and as awareness of StumbleUpon grows so will its user base.

StumbleUpon reached five billion stumbles sometime in May 2008, with about one billion of those being from the same year. Due to the number of stumbles rapidly accelerating it is probable that this number will have doubled to ten billion stumbles in 2010 (Schonfeld 2008). With this kind of exponential growth the future for StumbleUpon looks bright

As mentioned though many people are complaining about the new site. There are a number of people so annoyed with these changes that they claim to be willing to leave the service but at the moment no direct competitor to StumbleUpon or for its users exist. If a competitor arrises and StumbleUpon hasn't listened to its community then it could be detrimental to its success (Lica 2009). However if they do take these complaints into account there isn't much hope of another service catching up with their index or user-base. As the company is cash flow positive its unlikely that they will go bankrupt either.

Word Count: 1,590

How It Works

Definition

StumbleUpon is labelled as a social book marking service, built to help users discover new websites that see to their interests. StumbleUpon uses a peer to peer recommendation engine, that's powered by other "stumblers" ratings, to provide its user with an easy to use system to discover new websites that the user will find interesting and entertaining. StumbleUpon loads websites straight to the users web browser with the click of a button.

StumbleUpon can also be used as an advertising medium, which allows companies and users with published web pages to have other "stumblers" directed to their website for a fee. This has revolutionised the way that online advertising is presented, as the company advertising can choose which page the users will be directly shown; as apposed to banners, which need to be clicked on and are optional to view. The advertising method of StumbleUpon is also optimised by only advertising things that the user will relate to or find interesting. This causes the adverts to be less noticeable as an advert and not seen as an annoying pop up. Companies and users that pay to have their website sponsored on Stumble Upon is what keeps the Stumble Upon service free.

Basic Use
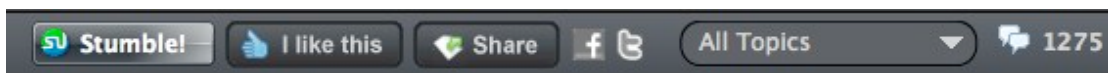
The basic use of StumbleUpon is extremely simple and easy to use. There are currently two ways of accessing StumbleUpon. The first way is by visiting www.StumbleUpon.com where on the home page there is a big button that says 'start stumbling' with several tick boxes next to it with different categories of things that may interest you. Once you have selected these categories and clicked 'start stumbling' a random web page of interest will be loaded to your screen.

At the top of the stumbled screen a javascript toolbar will appear with several buttons. Including the 'stumble' button (which will bring up a new website every time its pressed), a 'share' button (so that you can email a link to a friend) and an "I like it" button (which is what ultimately narrows down your interest field). This is the easiest method to start stumbling as you do not need to sign up for the service or download any plug ins for your browser as a lot of people prefer to stay anonymous or don't like to clog up their browsers with toolbars. By using the web based version of StumbleUpon you still have the option of signing up to be able to store favorite websites and will also store your likes and dislikes to fine tune your stumbles.

Although using the web based version will require you to type in your username and password every time you log on and some of the limited options and features take slightly longer to get to. The other advantage of using the web based version is that originally the downloadable plug in tool bar was only compatible with a select few browsers, such as Microsoft's Internet Explorer and Mozilla Firefox (although extension for browsers such as

Safari and Opera exist, they are only available via a third parties). The web based version allows users of any browser that complies to the web 2.0 standard to use StumbleUpon.

The second way of using StumbleUpon is by logging onto the Stumble Upon homepage and downloading the plug-in tool bar that will integrate itself with your web browser, which is currently only officially supported by Internet Explorer and Mozilla Firefox (Google Chrome is currently in evaluation).
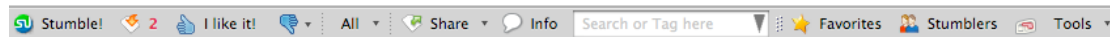
To use the plug-in toolbar you will be required to create an account and to start stumbling you simply click on the 'Stumble' button. If you like the web page that is presented, you click the 'thumbs up' button, if you dislike the page you click the 'thumbs down' button. This is one way that StumbleUpon learns what to recommend. If you like the page so much that you want to bookmark it, in order to save it for a later date you can save it to your favorites instead of bookmarking it to your browser.

The favorites button will also show you all the top favorite sites that other stumblers have voted they like. The advantage of using the plug-in as opposed to the web based version is that it loads up with your browser; so you don't need to visit the StumbleUpon website to access your account and you can start stumbling straight away with the click of a button. This means that when you are just generally web browsing and not navigating with StumbleUpon, if you were to find a website you like you can hit the 'thumbs up' button; the website will be logged and submitted to StumbleUpon for other users with similar tastes to view.

The tool bar also gives you extra options that are not included with the web based version, such as a dislike button, which will help narrow your interest field further. If a page including a sponsored stumble is disliked by enough users it will be removed completely from the StumbleUpon network. The plug-in version also has a 'stumblers' button which allows the user to communicate with other stumblers and add each other as friends, this also helps fine tune your recommendations through things that you and your peers are interested in. This is what makes StumbleUpon similar in some senses to other social networking services such as Digg.

The plug-in also has extra features like an information button that gives the user more traffic statistics about the website that they are viewing and also comments left by other stumblers about the site. The plug in allows the user to change any account settings straight from the tool bar, rather than having to log on to the StumbleUpon website. Another feature that the plug in gives you is while you are conducting a Google search; next to each search result there is an out of five star rating on the quality of the website, this has been produced by recommendations of other stumblers.

Technical Aspects

This part of the report is relatively limited as a lot of the information on the advanced technical aspects on how the StumbleUpon system works has been kept a secret by the developers as the algorithms for StumbleUpon are unique and is the key element to rising above their competitors. I have found several theories on the algorithms the StumbleUpon use on some programmers blogs, but they are not necessarily correct. They are more of a rough guideline to how the algorithms work.

The image above is a diagram of how stumble upon works. Taken from the Stumble Upon website.

It shows that StumbleUpon has three main engines that power its service. The first engine is the classification engine. This is what sorts all the newly submitted and rated web pages from users into categories using tags. For example a comical Youtube video might be categorized under video, comedy, funny, humour and several other categories depending on the content of the video. By selecting what categories you are interested in the engine can then determine whether you will be interested in this page or not.

From the classification engine the web page will be filtered through the level of ratings from other users for that page to determine its quality. It is then filtered through your chosen interests, which makes up the first part of the recommendation engine.

The second engine is the clustering engine. The clustering engine is what sorts out user votes. These votes are whether a user likes a website or not, this means who has thumbed up a site and who has thumbed down a site. This also includes when a user does not rate a website and quickly moves to the next stumble.

"things such as comments on stories and so called 'quick stumbles' (when a user quickly hits the stumble button again after landing on a page without voting on it — they dub this a 'soft not for me,' or down-vote) are taken into account as well." "This all makes for a system of quality plus relevance"
- Garrett Camp (*Siegler 2008*)

The information from the clustering engine is then sorted through a filter of similar users who liked or disliked the page so that users with similar tastes can influence what your recommended websites will be. This technique is known as collaborative filtering and is what creates a peer endorsed page. This is what makes up the second part of the recommendation engine.

The third engine is the recommendation engine which is made up of the above processes and one more factor. The last factor that makes the recommendation engine is made up from socially endorsed pages. The socially endorsed pages are produced by making friends with other stumblers. These friends can be friends that you already know or friends that you have found via stumbling. Socially endorsed pages are the pages that your friends have 'thumbed up' and therefore you may find interesting as well.

Altogether these processes are then put together to create a personalised recommendation tailored to your taste, this enables you to stumble and discover new, interesting and entertaining websites. Which in turn you then rate which then sends that information round the whole process again to fine tune yours and other users stumbles.

Algorithm Theories

The following models are Tim Nash's understanding of the StumbleUpon algorithms and are taken from his blog (Nash 2007).

Tim Nash is a programmer and has extensively tested his algorithms to try and give users an idea of what their voting (likes and dislikes) are doing in terms of affecting the amount of visitors a page will receive via StumbleUpon. He also looks into what factors are important in increasing an audience score.

"*The audience score was based on number of fans, number of pages thumbed up, number of pages thumbed down and number of reviews written. The score is what determines how much stumble juice a person carries. The audience score has one other factor stumble history. If a stumbler initially stumbles a site and the site receives a large quantity of thumbs up their audience score increases conversely if they initially stumble a site and it's thumbed down their audience score goes down.*" – Tim Nash 2007.

Having a high audience score means that the user has an increased chance of spreading their "liked" sites to other users.
(Nash 2007)

Algorithm 1 – Basic Model

"Initial stumbler + (number of thumbs up / number of thumbs down) = visitors"

The first model is the most basic algorithm and states that the audience score of an initial "stumbler" that submits a site, will dictate how many stumblers will see the site and then from the amount of "likes and dislikes" the users vote will determine the amount of additional users will view the site.

Algorithm 2 – Audience + Domain Model

"(Initial stumbler audience/#stumbled domain)+ ((% of audience of stumbler per thumb up/#stumbled domain) / number of thumbs down) = visitor"

"This model presumes the number of times the domain is stumbled by a user is a factor therefore the initial stumblers audience score is affected by the number of times they have previously stumbled the domain. If this is done for both the initial stumbler and all stumblers thumbing the page up or down it would explain why mailing lists and friends stumbling the same domain has less and less effect." – *Tim Nash, 2007.*

This algorithm is likely to be used by StumbleUpon to reduce the chance of users "gaming" the system to their advantage, for example people who are intentionally trying to direct more traffic to their site for advertising.

Algorithm 3 – "The Big One"

"(Initial stumbler audience /# domain) + ((% stumbler audience /# domain)+ organic bonus – nonfriend) – (((% stumbler audience + organic bonus) + N"

So initial stumbler juice is the user's audience plus the users previous stumble bonus which is divided by the number of times the domain has been stumbled by the user. Plus for each thumb up the juice is a percentage of their audience score plus their previous stumble bonus divided by the number of times the domain has been stumbled by that user plus a bonus if the stumble was organic and any to close penalties that may apply. The audience score is reduced by a percentage for each thumb down stumbler plus a bonus if organically stumbled. An organic stumble is when the site is viewed by the stumbler using the tool bar, which is seen as the user rating the site for the first time of seeing it. Finally N which is a random number generator. (*Tim Nash, 2007)*

Word Count:1,639

Competitors

StumbleUpon falls within the category of a 'Social Book-marking', 'Shared Information' or 'Related Recommendation' Internet tool, which places it in an extensive list of alternative sites widely used for a similar function.

The advent of Web2.0 and applications developed to facilitate information distribution made social book-marking a very popular method for users to navigate, categorize and filter the vast amount of information on the internet. Along with this and future changes such as 'Cloud-computing', the market is an expanding area of social information and digital broadcast.(O'Reily 2005)

The site Delicious coined the term social bookmarking when it was founded in 2003 and along with it came a number of similar services joining the list of competitors for StumbleUpon.

However once StumbleUpons weighed up against these other options, i.e. Digg et al, a more accurate and practical method information access, broadcast and sharing is seen in Stumbling through the Internet world.

Related Sites

The evolving crop of social recommendation tools has many slight differences and functionalities between the options. To best view the competitors StumbleUpon could be seen to share the marketplace with; a table has been compiled of leading services in this area and their facilities.

Rating: Users ability to rate a site's level of quality/relevance to their interest. Many sites share this function and it is a very important feature embedded to allow the higher quality information to rise above the rest reviewed by users. For a number of services, e.g. Delicious & mag.nolia, the main webpage must be visited for the user to check ratings. However StumbleUpon and some others display people's ratings beside links when a typical search is performed.

Tagging: addition of keywords as metadata to site URL to identify type of information it contains.
The idea of bookmarking now strongly co-exists with tagging of content. For users to search through links that would be related to their interests a successful tagging system must be in use to sort the growing number of bookmarks it contains. Most sites function more on a category list, e.g. Reddit, but StumbleUpon's detailed tagging (or 'Topics') allows for more specific content identification and in turn better results.

Sharing: finding people with similar interests and swapping newly discovered links between one another.
For a service to be seen as 'Social' it is necessary for it to allow users to interact with one another and share content that they think the other might like. The vast majority of services have this function, some more intuitive and user-friendly than others, with StumbleUpon and Diigo having it as standard but sites like Reddit having it as a rather troublesome add-on. (Diigo Inc. 2010)

Browse by tag/category: navigating information based on specified content.
Besides the option of surfing the Internet through a large list of user specified interests, the choice to also browse in a certain tag/category makes the service much more versatile and useful. In relation to sites that are built mainly upon navigating through broad categories, e.g. Reddit and Digg; the option of navigating different categories or tags within StumbleUpon can be taken when searching for a particular item. (Cond Nast Digital 2010)

Toolbar: browser add-on used to operate service.
Many of the similar sites to StumbleUpon offer a primitive toolbar as an extra feature to use their service, e.g. Reddit. The fact that StumbleUpon has used a toolbar from the very beginning means it's a main method of operating one's account. Delicious and Gnolia (previously Ma.gnolia) must be used from the main site, this is seen as useful since an account can be accessed from any browser.

Ultimately the ability to have a choice of a toolbar or not is what users are attracted to and StumbleUpon answered this with a web toolbar which doesn't require a downloaded add-on for the browser. (Iskold 2006)

Embedding On Other Sites: syndication of various output forms for the information to be tagged, shared and rated.

For a user to bookmark and/or share a URL they have the option to do so by selecting their preferred social bookmarking site from a list on most websites.

This function can just as easily be performed from a toolbar if the service offers this option. These days nearly all services implement this in some form or another and can be a valuable tool for webmasters. (Webb Unknown)

A feature which almost reverses this principal of embedding the network on the site is StubleUpon's 'StumbleThru' which allows a user to 'stumble' around

a particular partner website filtering its content for the users interests; essentially embedding the site into the network.

Social Networking: joining groups of like-minded people also using the service.

Most personalized social bookmarking services allow a user to find others with similar interests, create groups and communicate with one another. With StumbleUpon one can 'subscribe' to another's account to follow what they discover and view each other's profile pages. Following another user also influences your own recommendations.

Integration With Other Tools: additional tools available to enhance functionality of service.

There is a multitude of additional features a user can avail of with developments of new tools for a social bookmarking site. Many of the competing sites offer tools for sharing through weblogs (Delicious), promoting their web presence through the site (RedditAddict) and manage URLs (StumbleUpon's Su.pr). *For more information on Su.pr please see section 'Evolution of StumbleUpon' (Cond Nest Digital 2010)*
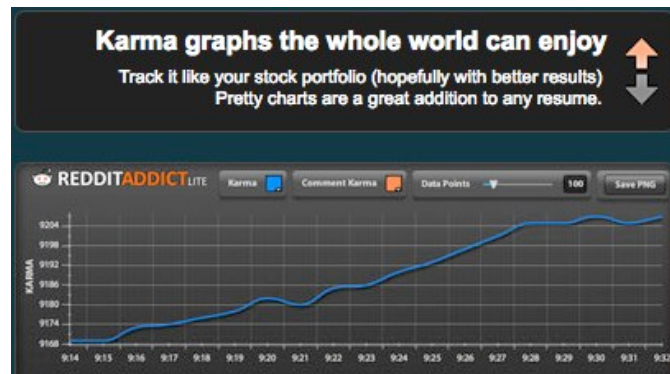
It can be seen that a number of functionalities of StumbleUpon and it's competitors are shared but with some displaying a more practical implementation of these tools than others. When each is weighed up it can be seen that since the beginning StumbleUpon has attracted users through it's design and toolbar. The many options of how to use the service and it's personalisation has proved to be something many users prefer. As a result of StumbleUpon's method of tagging and categorising content through it's users; its a much better internet navigation tool in comparison to it's competitors.

The StumbleUpon niche was the idea of 'randomized' or 'queryless' searches within the borders of your chosen interests; serendipity. This clearly became a feature users liked as other competitors began to offer a similar method of surfing the Internet. Google released their 'Dice' feature and Tumblr released Tumblupon, but this only jumped between the micro-blogs that Tumblr hosts. (Schonfeld 2010)

Now that the features that StumbleUpon provide and how they differ from similar tools has been examined, a current picture of how they're competing in the marketplace can be investagated.

Competition In The Marketplace

Economic Competition
To take the view of StumbleUpon purely as a company and measure it off of competitors, the total worth it has developed and the revenue it generates is comparable to sites that have existed much longer in the market.

A large part of it's financial success is down to advertisers being interested in the large categorised user-base that are present.
Despite the personal aspect of many social bookmarking tools for browsing, the advertising is often dealt with on a 'Pay Per Click' plan.
The thing which separates StumbleUpon from the rest in this aspect is that the user will be shown content of interest, but better still for the advertiser as they are brought directly to the site.

To gauge an idea of StumbleUpon's financial activity with respect to leading competitors, figures were taken from Cubestat.com which uses an algorithm based on available sources (e.g. age, indexed pages, ranks, popularity). These are not perfectly accurate and are only a simplified interpretation of appraisal (Cubestat 2008).

StumbleUpon:
- Created: **2001**
- Website Worth: **$8,171,643.36**
- Daily Page-views: **3,731,344**
- Daily Ads Revenue: **$11,194.03**

Delicious:
- Created: **1995**
- Website Worth: **$5,189,575.11**
- Daily Page-views: **2,369,669**
- Daily Ads Revenue: **$7,109.01**

Digg:
- Created: **2000**
- Website Worth: **$20,857,143.90**
- Daily Page-views: **9,523,810**
- Daily Ads Revenue: **$28,571.43**

Reddit:
- Created: **2005**
- Website Worth: **$6,083,333.82**
- Daily Page-views: **2,777,778**
- Daily Ads Revenue: **$8,333.33**

StumbleUpon is still rapidly growing and advertisers are going to continue to avail of the service to reach specific customers, narrowcasting the product/service they provide to interested users as opposed to broadcasting it to as wide an audience as possible. This longtailmarket that has evolved puts StumbleUpon in a strong position to attract a wide range of investors and advertisers, solidifying their position in the competitive market.

Customer Competition
The driving force of a social bookmarking service is its user base. For the content to constantly attract and provide people to the service, the existing users must be actively using the tools to catalog the distribution of relevant content. As this happens within StumbleUpon's process of '*classification and indexing in combination with social networks and user ratings to improve the quality of recommendations and coordinate the distribution of relevant content',* it's standard of service helps increase competitiveness with other leading sites.
(Sherman 2007)

Daily Traffic Rank Trend

	Traffic Rank	Change
Yesterday	384	-10 ⬆
7 day	344	+27 ⬇
1 month	340	-22 ⬆
3 month	356	-101 ⬆
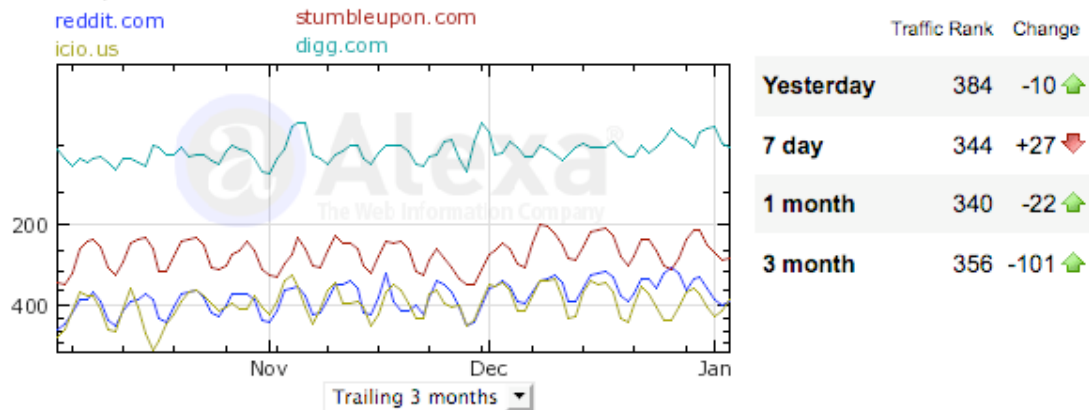
(Alexa Internet Inc. 2010)

Despite StumbleUpon users not needing to visit the site itself to avail of the service, it can be seen to show high levels of Internet traffic when compared to sites such as Reddit, Digg and Delicious.

User Time on Site

Daily time on site for reddit.com:

	Time on Site	Change
Yesterday	513.1	+4% ⬆
7 day	482.7	-2% ⬇
1 month	467.8	+6% ⬆
3 month	455.9	+15% ⬆
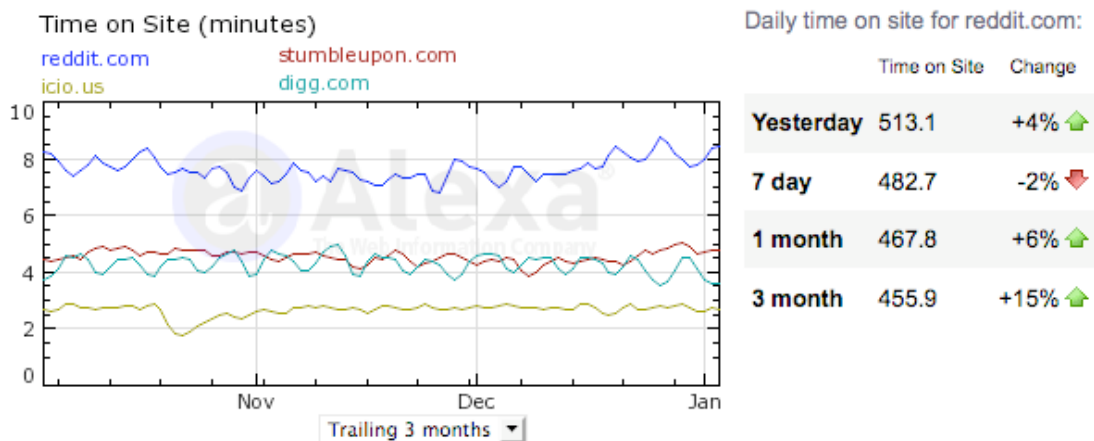
(Alexa Internet Inc. 2010)

StumbleUpon has had a steady increase in users since it started, but to simply judge it's success from the amount of traffic would be an inaccurate comparison as many people use the toolbar and rarely visit the actual domain. However pieces of information from interviews with co-founder Garrett Camp and articles help one see the activity StumbleUpon experiences.

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Monthly searches per unique searcher [1]
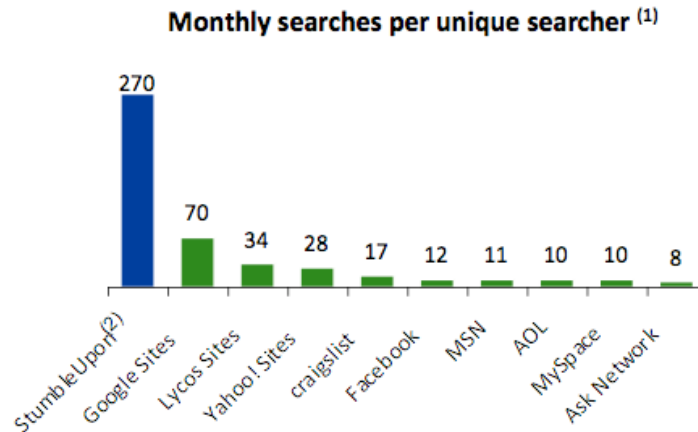
(Seigler 2008)

As it's a 'queryless' search of recommendations StumbleUpon sees a lot of activity from the existing users. This 'Ease of Use' ethic, that it successfully utilises in comparison to leading search engines, makes it a site of high user activity. Above shows a bar chart of monthly searches per unique searcher:

It's also estimated that over 30,000 pages are received each day through users submitting and tagging links. This allows StumbleUpon to expand its cataloged database and compete with sites such as Digg.
(Seigler 2008)
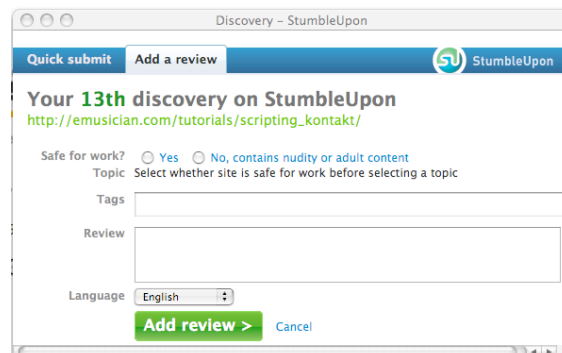
The amount of users on StumbleUpon has increased steadily and rough figures found show how it's grown in popularity.
  • January 2006: over 500,000
  • October 2006: 1.3 million
(Schonfeld 2008)
  • April 2008: 5 million
(MacManus 2006)
  • September 2008: 6 million
(Seigler 2008)
  • February 2009: 7 million
(Kirkpatrick 2009)
  • October 2009: 8,453,000
Unkown 2007)
  • January 2010: 8,963,790
(StumbleUpon 2010)

Other sites exhibit similar increases in their user-base as they've gained a foothold in the market of social bookmarking services. Digg is estimated to have had 2.7 million users in 2008 (Schonfeld 2008), Delicious boasting 1 million by 2006 (Delicious Blog 2006) keeping in mind it has existed since 1995 the competitors user numbers show StumbleUpon is in the top list.

From looking at similar sites to StumbleUpon, the features they share and the market they occupy it can be seen that it's fully established within the marketplace.

The concept of 'content discovery' that StumbleUpon incorporates is one which has clearly proven a popular method of distributing information. Competitors have released features to mimic this and even new ones such as SimilarWeb are entering the market, showing the market expansion. It can be drawn that StumbleUpon has a permanent holding and with it's variety of options for users with integrated tools.

The public interest it has generated shows that StumbleUpon is a service that is widely used. This user-base has in turn produced large interest from advertisers and revenue, allowing it to compete strongly in the market and survive financially. The growing activity in viral marketing by companies naturally draws them to StumbleUpon and the categorising it provides them for accurate advertising.
(eMarketer Inc. 2006)

Ultimately the service offered by StumbleUpon is quite unique and relatively unmatched in it's quality of results. The sites mentioned as it's competitors broadly fall into the same market but as Garrett Camp has said in an interview, '*what we're trying to do is different from sites like Delicious. The fact that we have different goals doesn't make us direct competitors*'.
 (iEntry Network Publication 2007)

Word Count: 1,970

Revenue & Economics

Economic background

StumbleUpon started as an academic project and there's no information available regarding the initial funding of the company in 2001, at this time the product was still in development and it took some years before the company started to look for external investors until then the company remained self-funded.

In 2005 a venture capital of $1,5 million was added to the company from seed funding (private angel investors) preceding the move of their offices to San Francisco in 2006 to expand the company's activity.

In 2007 eBay acquired the company for the high sum of $75 million. When eBay failed to implement StumbleUpon with their existing services and the investment seemed to have turned into a dead end, they hired Deutsche Bank in an attempt to retrieve their investment, the lack of interest from other investors opened the door for the original founders to buy the company back in 2009.

The spin-off value of this transaction has been rumoured to be substantially under the $75 million paid in 2007. According to TechCrunch (www.techcrunch.com, 2009) StumbleUpon was bought back from eBay by a mere $29 million, of which around $25 million (circa 85%) belonged to outside investors: Sherpalo Ventures, Accel Partners, and August Capital. The rest of the capital was included by the original founders; Garret Camp and Geoff Smith. This meant $4 million out of the $29 million remained in the company to fund operations the remaining part was paid to eBay which also kept a 10% share of StumbleUpon.

In comparison with the popular Digg, StumbleUpon has had a more efficient development in terms of funding, even though it's pace might have acted in detriment to the popularity of the service, it has been decisive in the stabilised growth of the company since it's foundation. In 2005 Digg collected $2.8 million in venture capital and ever since has been in the need to include larger amounts of investment ($8.5 million in 2006 and $28.7 million in 2008) in order to keep the company working due it's continuous losses, $2.8 million in 2007 and $5.3 million in 2008.

Fundin history
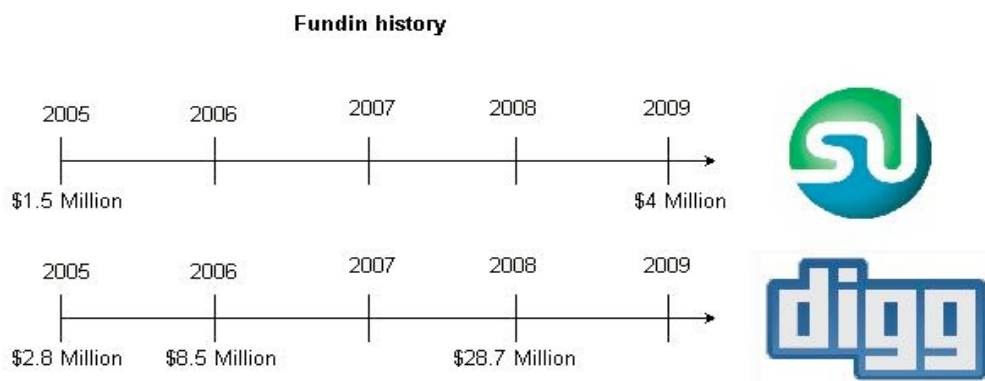
Revenue

StumbleUpons revenue is estimated to be between $5 to $10 million per annum (www.techcrunch.com, 2009). The service has two main sources of revenue, sponsors; users that pay a fee to upgrade their basic free account, and advertising; this corresponds to a percentage of the stumbles the users come across when navigating through the service. In comparison with other services such as Digg, StumbleUpon has a similar revenue with smaller traffic due to the nature of it's unique advertising service. The reduced cost of the company due to it's smaller size (38 employees at StumbleUpon against the 75 employees at Digg), means less demanding bandwidth requirements which reduce structural costs and the considerably lower amount of funds invested in advertising and marketing.

Another fundamental key to the company's revenue are the methods used for funding: Sponsor users and advertising.

Sponsor users choose to pay a fee of $20 annually, although there's a possibility to become a sponsor for $10 if another user pays for your fee. They have the power to create user groups and turn off the advertising when stumbling. This "sponsorship" is used to attract StumbleUpon enthusiasts and reinforces a viral community, which establishes a base of regular customers and strengthens the relationship between the company and it's power users.

Advertising is the main income source for StumbleUpon and it allows advertisers to buy traffic for their website, this form of advertising differs from traditional pay per click web-search advertising. It brings StumbleUpon users directly to the advertised website, no banners or links involved, and allows the stumblers to rate the website content, comment on it and provide direct feedback for the advertised company which is an added value. StumbleUpon also offers the possibility to target customers considering their age, gender, preferences and other variables enabling ad campaigns directed to niche markets.

Advertised stumbles are around 1 every 20 to 30 stumbles (around 2% to 3%) at $0.05 rate per stumble with a minimum of $20 per month. In case the content receives positive reviews, there's a chance the website becomes viral and receive more visits than paid initially to StumbleUpon without any added cost, thus increasing the value of the advertising service.

Marketing

The added values of StumbleUpon's advertising service appeal to content providers and publishers, this has led to a partnership program that allows users to stumble through the content of a specific website. In some instances this has led to direct partnerships between companies and StumbleUpon, such as Fotolog, the largest photo-blogging community online; with more than 18 million members and part of the Hi-Media Group which in 2008 announced their partnership with StumbleUpon. Other websites such as HowStuffWorks.com, HuffingtonPost.com, NationalGeographic.com and RollingStone.com have also a direct partnership with StumbleUpon, integrating the company's recommendation engine with these websites to intensify the user experience.

These partnerships are beneficial for StumbleUpon as well; they are meant to have promotional purposes with the objective of attracting users into the service from the site partners, and even though these agreements don't involve monetary transactions they are likely to increase the revenue of the company due to the increase of StumbleUpon's users and consequently the audience available to advertisers.

Premier Partners

StumbleUpon's have a policy against the personal use of single or multiple accounts to promote specific websites or products, as it is stated in the terms of service. This misuse of the service could affect the integrity of the whole product with subsequent effects on the user experience and the appeal of the advertising service.

When suspicious activity is detected, the account is put under review and the user receives an email warning about the breach and violation of the user terms of service and in case of the illegal activity being sustained, the user account will be banned. User ratings also help minimise the effect of these illegal activities, negative feedback will affect directly these ill intentioned stumbles keeping them out of the system.

Despite the efforts of StumbleUpon to keep the integrity of their service to satisfy both users and advertisers, there are some tools available for companies featured in StumbleUpon to increase their popularity within the service, thus increasing the traffic in their websites. An example of these tools is "StumbleUpon Bribe Machine", which will provide a "gift" to visitors in exchange for a positive review in StumbleUpon, although it specifies "ethical bribes" such as free software, e-books, free memberships and discounts, it could be considered a breach of the terms and conditions which could lead to the ban of users or advertised companies involved.

Overview and predictions

StumbleUpon is an example of a company with a steady development and sustainable economic growth, especially considering the instability of internet based businesses. There are some key points to this stability; for instance the long development of the product since the foundation of the company in 2001 without any external funding until it moved to San Francisco in 2005.

Another important side is the origin of the funding; instead of looking for venture capitalist, looking for a traditional risk investment which usually conveys high expectations on it's growth and the financial returns, StumbleUpon searched for angel investors which ensured the interest was beyond monetary results.

The innovative approach to advertising can be considered the unique selling point this company has to offer customers willing to initiate a marketing campaign within StumbleUpon. Although focused on content providers and publishers, it's added values and the increasing number of users make this form of advertising very attractive and efficient.

The marketing strategy of the partner program proves to be a costless method of attracting users into the service. Traditional marketing involves developing an ad campaign that successfully attracts customers. Considering the nature of StumbleUpon and it's revenue sources, users could be considered the work force and the advertisers could be seen as customers. This makes the number of StumbleUpon users and the company's statistics the prime marketing points to attract companies looking to start an advertising campaign. The partner program implies attracting users that have had direct contact with the recommendation engine within external websites and means the user is not attracted by a slogan, catch phrase, logo or image. The users that register into StumbleUpon from the partner websites are doing so because the have experienced the application and want to make use of it.

The number of websites offering similar services has increased extensively during the past years. StumbleUpon will have to make some efforts to keep up with other companies such as Google, their status as a "web 2.0 novelty" won't last long and they will have to invest in development while maintaining a stable income and cost structure.

Considering it's past development and their present economic situation, StumbleUpon has a very good chance of staying in business for many years to come. Their policy of quality service for both users and content providers is likely to keep being successful as long as the product development, growth and revenue keeps up with the emerging competitors.

Word Count:1,609

Conclusion

From creating this report on the digital broadcast media that is StumbleUpon; a better understanding of the service, it's existence and it's activity has been achieved. The project revealed details on where it came from, how it technically works, who's it's competition and what economic activity it experiences.

The way that StumbleUpon works is simple and easy to use, so that almost any user can master the use of its service. Which is what every software company aims for but doesn't always achieve. By having two ways of using the system (java script and installable plug in version) gives users the freedom to give StumbleUpon a try with no strings attached, or have it fully integrated into their web browser if they so wish. This makes StumbleUpon more likely to gain more users than its competitors which will ultimately set a new standard for web discovery.

StumbleUpon has slowly been refining its recommendation engine and with the advent of the [Su.pr](Su.pr) service this will no doubtably get better. StumbleUpon's video service may eventually move into the living room in set top boxes as well as well as be seen on mobile devices if they realise their potential. It will probably be supported on more browsers and has a potential future of being implemented into media centers. Competition is unlikely to catch up in terms of their userbase or their indexes and the company is listening to customer feedback and working to right their mistakes. This will give StumbleUpon a head start against any competitors and will allow their services to grow and improve.

The analysis of the revenue and economic figures have shown Stumbleupon has a sustainable economic model, it's main strength is the unique advertising service and it's fit to continue to provide a growing revenue as long as the traffic keeps on increasing. It's approach to marketing follows the policy of the company in terms of content quality, to maintain it's status as a content discovery tool with added social networking.

When the service StumbleUpon offers is viewed in relation to similar sites; it is unique and unmatched. In terms of quality, use and overall functionality it comes out as being one of the strongest in the social bookmarking scene. Measuring StumbleUpon's success off of other leading sites with relation to revenue and user-base again showed up a well established service which shows no signs of failure in the competitive market.

As a group we all worked well as a team and performed the set tasks at the best of our ability. We arranged several group meetings to discuss the assignment and to break the work up into equal parts. We also worked together in improving our team skills for our StumbleUpon presentation, this included designing StumbleUpon t-shirts to help demonstrate the use of this broadcast media service and cooperated on Googlewave; sharing links and keeping an eye on each others write ups.

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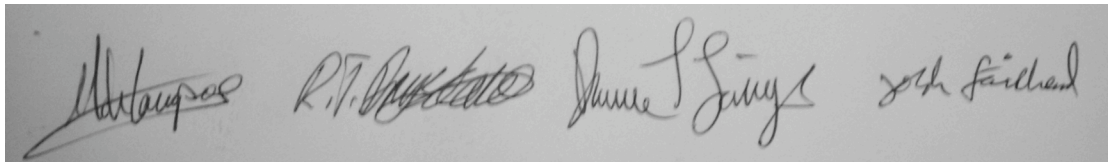
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Group Contract

1. Three things the group wants......
   - A successful amount of research on designated sections by each member
   - For each member to evenly contribute to the report and presentation in their chosen parts
   - Constant communication between every member in the group when the project is being carried out

2. Three things the group doesn't want......
   - For members to not complete/contribute to their sections due to unrelated problems to the project
   - A group member to share too much/too little of the project workflow
   - Conflict occurring between members over any issues regarding the project or their relationship

3. How we will achieve our aims.....
   - By constantly updating other members on the work one has done, sharing any information found to do with another's section and ensuring all the group is achieving the overall project goals
   - By resolving any issues encountered as a group before they start to hinder the aims of the project
   - By each doing our best in comprehensively finishing the designated parts and collaborating well to form one complete report.

4. What we will do if things go wrong........
   - Locate the problem interfering with the project's aims and see how it could be resolved
   - Each contributing to sort the thing which may have gone wrong, despite it being part of someone else's section
   - If problem hinders the project as a whole, members must reevaluate the situation and collectively decide the best approach in light of the issue.

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