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THESIS PROJECT

<< SOCIAL BUSINESS NETWORK ANALYSIS WITH WEB ANALYTICS 2.0>>

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PREFACE

The current thesis was created in the context of the final project of the IT department of the Alexandreio Technological Institution located in Thessaloniki Greece.

The goal of this thesis was to search and present the main technologies and tools that could be useful to companies , organizations , or even simple users who would like to increase their footprint on the web , maximize their actual audience , earn new viewers , or in general to make their web assets better so that they can attract more people , taking advantage of technologies such as social media , web analytics and semantic web.

ABSTRACT

At first we present social media and how their rapid growth has helped us to increase visitation. Then we introduce the basic methods that web developers use to increase traffic like social media optimization and others.

Then we indicate the main technologies and a number of tools for web analytics that aim to analyze the performance of a website. We attempt to clarify to everyone why web analytics is necessary for any website and how practically web analytic and semantic web tools (Google analytics, bing webmasters or Zemanta) can record the performance of our website and help us so that it becomes better and easier to achieve the purpose for which we created the website in the first place.

Also there is a practical implementation of some tools for the Valo blog site.

TABLE OF CONTENTS

INTRODUCTION

The goal of this thesis is to highlight and present the innovative technology of web analytics and how it can help us to increase traffic on our website. Also what tools exist to help achieve our goals.

Social media and their rapid growth has helped us to increase visitation. We introduce the basic methods that web developers use to increase traffic like social media optimization and others.

Then we indicate the main technologies and a number of tools like Google analytics, Google webmaster tools, Bing webmaster and others for web analytics that aim to analyze the performance of a website.

We introduce data mining techniques and what the semantic web is.

Finally we implement a small portion of tools on the blog we created for the needs of the Valo project.

CHAPTER 1

ECQA COMMUNITY AND THE VALO PROJECT

1.1. EUROPEAN CERTIFICATION AND QUALIFICATION ASSOCIATION (ECQA)

The ECQA[1] is a **non-for-profit association**, joining institutions and several thousands of professionals from all over Europe and abroad.

The ECQA provides a world-wide unified certification schema for numerous professions. The same exam pool, exam rules and the same electronic exam system are used for certification exams in any participating country.

The ECQA joins experts from the market and supports the definition and **development of the knowledge** (Skills Sets) required for professions. Experts, joined in "Job Role Committees", are frequently initiating new professions and updating the existing professions as demand on the market requires.

The ECQA defines and verifies quality criteria for Training organizations and Trainers to assure the same level of trainings all over the world. The certification procedure offers modularity of certification. Therefore, modularity of training all over the world is assured. Only verified and approved organizations and individuals may become ECQA certified service providers.

The ECQA centrally **promotes all certified professionals**. Databases of certified professionals are publicly available to help organizations on the market in seeking organizations and individuals for cooperation.

The European Certification and Qualification Association (ECQA) is the result of a number of EU supported initiatives in the last ten years where in the European Union Life Long Learning Program different educational developments decided to follow a joint process for the certification of persons in the industry.

The overall objective of the project was to establish the ECQA which is supported by **training organizations** from European countries (currently organizations from 18 countries participate) developing and maintaining a set of quality criteria and common certification rules which are applied across the

different European regions in the Life Long Learning scope in the IT and services, engineering, finance and manufacturing sectors.

This resulted in a pool of professions in which a high level of European comparability has been achieved by an Europe-wide agreed syllabus and skills set, an European test questions pool and European exam (computer automated by portals) systems, and a common set of certificate levels and a common process to issue certificates.

Through the ECQA it becomes possible to attend courses for a specific profession in one country and perform a Europe-wide agreed examination at the end of the course. The certificate will be recognized by European training organizations and institutions in 18 member countries.

1.2. THE ECQA VALORIZATION PROJECT

The VALO project[2] develops a **new certified valorization expert profession** adding to the 30 existing certifications in the European Certification And Qualification Association

All projects need to valorize their results for maximizing achievements and increasing sustainability after their lifetime. This includes transfer of results and best practices to different and broader contexts, potential tailoring to the needs of others, continuation after the funding period has finished, influences on policy and practice, serving the public good. The emphasis is on optimizing the value of a project and on boosting its impact.

Many European and other projects seem to be missing a **good valorization strategy**. Projects seem to be carried out in isolation and to finish without essential impact. In addition there is a lack of skills for carrying out valorization actions. The project's **objectives** are to:

- Develop an online accredited program of study for the job role of a Valorization Expert;
- Pilot the program in participating organizations/member states of the
- Refine the program based on systematic feedback;
- Disseminate project results via a range of channels, including a major European conference;
- Ensure the self-valorization and sustainability of the project and its outputs through the

Picture 1: The VALO project (src: www.valo.it.teithe.gr)

ECQA and other bodies

The content of the **valorization qualification** includes:

- Importance of valorization for raising awareness (social competencies).
- Study and development of robust dissemination models and policies, strategies, processes, as well as follow-up mechanisms for successful

valorization of results, including identification of barriers to valorization (managerial competencies).

- Measurements of quality and effectiveness of valorization activities (administrative competencies).
- Assessment of the impact of results and valorization actions (administrative competencies).
- Promotion and dissemination of project results using innovative web-based electronic means, including digital media (Internet marketing, social media marketing, mobile marketing) (technical competencies).

A **set of skills** required to analyses, define and implement potential valorization strategies will be developed. Based on these skills the following will be developed/implemented within the project:

- Training material - modular: Units/Elements/Performance Criteria; supported by exercises, aimed for usage by Vocational and Educational Training (VET) and/or distant Learning.
- Pool of exam questions- unified, supported by ECQA electronic exam system.
- Learning portal - providing training material and exercises;
- Trials of training materials and the training system will be performed for 100 participants.
- Train the trainers (2 trainers per partner will be trained and certified for trainings after the end of project).
- Integration of the training schema into the ECQA schema.
- Certification.

CHAPTER 2

INTRODUCTION TO SOCIAL MEDIA

Picture 2: Social media refers to the means of interactions among people in which they create, share and exchange information and ideas in virtual communities and networks. (src: http://postgradproblems.com/new-study-says-social-media-is-making-you-crazy/)

Social media are internet sites where people **interact freely**, sharing and discussing information about each other and their lives, using a multimedia mix of personal words, pictures, videos and audio. At these web sites, individuals and groups create and exchange content and engage in person-to-person conversations.

They appear in **many forms** including blogs and microblogs, forums and message boards, social networks, wikis, virtual worlds, social bookmarking, tagging and news, writing communities, digital storytelling and scrapbooking and data, content, image and video sharing, podcast portals, and collective intelligence. There are lots of well-known sites such as Facebook, LinkedIn, MySpace, Twitter, YouTube, Flickr, WordPress, Blogger, Typepad, LiveJournal, Wikipedia, Wetpaint, Wikidot, Second Life, Del.icio.us, Digg, Reddit, Lulu and many others.[3]

Unfortunately the above definition is only a small portion of what social media is. As social media continues to evolve and its uses change and expand, so does the definition of social media. In part, this is attributable to the fact that social media relates to the technology and platforms that enable the interactive web's content creation, collaboration and exchange by participants and the public. Yet, many users, business executives and the public consider the

11

marketing around these networks and the content created on them to be social media.

2.1. DEFINITIONS OF SOCIAL MEDIA

To clarify how social media, marketing and public relations (PR) professionals define social media, you have to search among numerous and various sources. Given social media's dynamic nature, there are many different approximations.

To demonstrate the various definitions of social media so that we could give the reader an all around description , a **thirty different definitions follows**, described by people who use social media in a daily basis as a part of their careers.

1. To start, **Wikipedia**, the social media go-to reference created by the public in the form of thousands of contributors, defines social media as *"media for social interaction, using highly accessible and scalable communication techniques. Social media is the use of web-based and mobile technologies to turn communication into interactive dialogue."* [4]

2. Definition by **Cheryl Burgess**: *"Social media consists of various user-driven (inbound marketing) channels (e.g., Facebook, Twitter, blogs, YouTube). These channels represent a stark difference from the advertiser-driven (outbound marketing) push model. As the principal owner of the customer relationship in the firm, typically, the marketing department is responsible for managing these social media channels. Although some may argue that the customer relationship is "everyone's" responsibility in the firm, the overarching responsibility rests with the marketing department as the champion for the customer."* [5]

3. Definition by **Lisa Buyer**: *"Social media is today's most transparent, engaging and interactive form of public relations. It combines the true grit of real time content with the beauty of authentic peer-to-peer communication."* [6]

4. Definition by **Michelle Chmielewski**: *"Social media is not about what each one of us does or says, but about what we do and say together,*

worldwide, to communicate in all directions at any time, by any possible (digital) means." [7]

5. Definition by **Margie Clayman**: *"Social Media is a new marketing tool that allows you to get to know your customers and prospects in ways that were previously not possible. This information and knowledge must be paid for with output of respect, trustworthiness, and honesty. Social Media is not a fad, but I also think it's just the beginning of the marketing revolution – not the end."* [8]

6. Definition by **Heidi *Cohen***: *"Social Media are the platforms that enable the interactive web by engaging users to participate in, comment on and create content as means of communicating with their social graph, other users and the public. Social media has the following characteristics: Encompasses wide variety of content formats including text, video, photographs, audio, PDF and PowerPoint. Many social media make use of these options by allowing more than one content alternative. Allows interactions to cross one or more platforms through social sharing, email and feeds. Involves different levels of engagement by participants who can create, comment or lurk on social media networks. Facilitates enhanced speed and breadth of information dissemination. Enables communication to take place in real time or asynchronously over time. Is device indifferent. It can take place via a computer (including laptops and netbooks), tablets (including iPads, iTouch and others) and mobile phones (particularly smartphones). Extends engagement by creating real-time online events, extending online interactions offline, or augmenting live events online."* [9]

7. Definition by **Joe Cothrel**: *"Social media broadly defined consists of any online platform or channel for user generated content. By this definition, for example, WordPress, Sharepoint, and Lithium qualify as social media, as do YouTube, Facebook and Twitter. Social media more narrowly defined includes only channels for user-generated content, as distinguished from platforms, which are referred to as social technologies. By this definition, for example, YouTube, Facebook, and Twitter are social media, and WordPress, Sharepoint and Lithium are social technologies."* [10]

8. Definition by **Sam Decker**: *"Social media is digital content and interaction that is created by and between people."* [11]

9. Definition by **Gini Dietrich**: *"Social media is a shift in how we get our information. It used to be that we would wait for the paper boy to throw our news on the doorstep (or into the flowers) and we'd read the paper, front to back, with our morning coffee before going to work. Now we get information, 24/7 and on the fly, from anywhere. In the more traditional senses, online, on our phones, and through the social platforms. Social media allows us to network, to find people with like interests, and to meet people who can become friends or customers. It flattens out the world and gives us access to people we never would have been able to meet otherwise."* [12]

10. Definition by **Bryan Eisenberg**: *"We are still trying to come to terms with the definition of social media. To start I think we should look at what it is not. The biggest problem I have with the term "social media" is that it isn't media in the traditional sense. Twitter, Facebook, LinkedIn, and all the others I don't have the word count to mention aren't media; they are platforms for interaction and networking. All the traditional media — print, broadcast, search, and so on — provide platforms for delivery of ads near and around relevant content. Social media are platforms for interaction and relationships, not content and ads."* [13]

11. Definition by **Sally Falkow**: *"Markets have become conversations. Social media are the online platforms and locations that provide a way for people to participate in these conversations. For individuals it is a way to connect and share content with friends and like-minded people. For businesses it's a way to tap into what people are saying about your brand, your product and/or your service, participate in the conversations, be open to new ideas and then use these insights to make better business decisions."* [14]

12. Definition by **Dr.Augustine Fou**: *"Social media = people's conversations and actions online that can be mined by advertisers for insights but not coerced to pass along marketing messages. It's the new form of media that does not exist until it happens and that cannot be bought by advertisers to carry their messages."* [15]

13. Definition by **Chris Garrett**: *"Social media is the tools, services, and communication facilitating connection between peers with common interests."* [16]

14. Definition by **Howard Greenstein**: *"Social media are the online technologies and practices that people use to share content, opinions, insights, experiences, perspectives, and media themselves. They are media for social interaction. You can tell social software because it is no fun to use by yourself – an account with no friends connected has no value."* [17]

15. Definition by **Ann Handley**: *"Social media is an ever-growing and evolving collection of online tools and toys, platforms and applications that enable all of us to interact with and share information. Increasingly, it's both the connective tissue and neural net of the Web."* [18]

16. Definition by **Sarah Hofstetter**: *"Social media is a reflection of conversations happening every day, whether at the supermarket, a bar, the train, the watercooler or the playground. It just allows for those conversations to reach a broader audience due to digital being a megaphone for scale."* [19]

17. Definition by **Dave Kerpen**: *"Social media is online text, pictures, videos and links, shared amongst people and organizations."* [20]

18. Definition by **Adam Kleinberg**: *"Most organizations approach social media wrong. They ask "who should own it?" as if it were simply another channel like email or search. Social media is not one thing. It's five distinct things: It's a strategic tool for uncovering business insights. It's managing the influencers who are driving the conversation around your brand. It's marketing that provides value and turns customers into evangelists. It's a critical component customer care. It's transforming your organization to meet the transparency and humanity customers now expect of brands."* [21]

19. Definition by **Rebecca Lieb**: *"Social media is digital, content-based communications based on the interactions enabled by a plethora of web technologies."* [22]

20. Definition by **Dorren Moran**: *"Social media is a collection of online platforms and tools that people use to share content, profiles, opinions,*

insights, experiences, perspectives and media itself, facilitating conversations and interactions online between groups of people. Social Media is the platform/tools. Social Networking is the act of connecting on social media platforms. Social Media Marketing is how businesses join the conversation in an authentic and transparent way to build relationships." [23]

21. Definition by **Lee Odden**: *"With social media, I think there's a literal definition concerning the media that people create and share online. But there's also the notion that social media is about the technology that facilitates individuals and groups of people to connect and interact, create and share. Unlike other software that works fine with a single user, social media applications and websites work better the more people there are using them. Technology that facilitates collective wisdom, engagement, creation and sharing – that's what I consider social media."* [24]

22. Definition by **Trey Pennigton**: *"Social media is any of a number of individual web-based applications aggregating users who are able to conduct one-to-one and one-to-many two-way conversations."* [25]

23. Definition by **Rob Petersen**: *"Social media is the media channel that relies on listening and conversation, as opposed to a monologue, to get your point across, make a connection and build a relationship."* [26]

24. Definition by **Joe Pulizzi**: *"Social media is all about leveraging online tools that promote sharing and conversations, which ultimately lead to engagement with current and future customers and influencers in your target market. The key to social media working, is having a content marketing strategy that involves the distribution of valuable, relevant and compelling content that promotes the behavior you are looking for that will ultimately drive your business. Most businesses start with the tools. Effective social media starts with a content strategy that helps to position you and your brand as the expert in your niche through provocative, informative and helpful content. Then, once that is accomplished, the social media tools are now available today that make the plan come together."* [27]

25. Definition by **Mark Shaefer**: *"There are three hallmarks of social media: Evolution, Revolution and Contribution. First, it is an evolution of how we communicate, replacing email in many cases. It's a revolution: For the first time in history we have access to free, instantaneous, global communication. We're living in an exciting time! Third, social media is distinguished by the ability of everybody to share and contribute as a publisher."* [28]

26. Definition by **Angie Schottmuller**: *"Social media is communication channels or tools used to store, aggregate, share, discuss or deliver information within online communities. The focus is on interaction and relationships, not the almighty dollar."* [29]

27. Definition by **Peter Shankman**: *"Social Media is simply another arrow to be shot in a company's marketing quiver. The first goal of all of the arrows used together is to generate revenue."* [30]

28. Definition by **Jim Sterne**: *"Social media platforms make it easier to share information–usually online. But a bulletin board at a grocery store or in a college dorm qualifies too."* [31]

29. Definition by *Liz Strauss*: *"Most literally, social media would be any object or tool that connects people in dialogue or interaction— in person, in print, or online. In common usage, social media has come to mean a specific category practices, technology, tools, and online sites that involve social relationships, participation, and user-generated content."* [32]

30. Definition by **Deborah Weinstein**: *"Social Media is the new Wild, Wild West of Marketing, with brands, businesses, and organizations jostling with individuals to make news, friends, connections and build communities in the virtual space. A plethora of platforms ranging from Facebook, Twitter, LinkedIn and YouTube to a vast variety of newly emerging and rapidly dwindling services, like, Foursquare and MySpace, social media is all about influencing people one-on-one; and achieving P2P (person-to-person) communication that influences awareness, acceptance and behavior. Powerful tactics and tools of communication, social networks can and should play an important role in every brand-building, maintenance and protection strategy."* [33]

It results from the above that regardless of how you define them social media, will continue to evolve and its use will expand. In the process it will become more integrated into both our business and personal lives.

2.2. SOCIAL MEDIA CATEGORIES

Picture 3: The most common social media categories. (src: http://www.cite.co.uk/the-different-types-of-social-media/)

Defining the number of social media categories is not a simple task. We have to deal with the same situation as we dealt with the social media definition: It depends on the point of view of the researcher. According to the research, we concluded that social media could be categorized as follows:

Social Networks: One of the most popular social media categories, a social network is an online service, platform or site that allows users to have their own profile and develop relationships with other users. Interaction on these sites forms online communities and people frequently share information through posts, links, photos, video and other multimedia. Popular examples include Facebook, Google+ and LinkedIn.

Blogs: Short for web blog, a blog is a website (or part of a website, for example on a larger company site) where articles are written and posted for people to read. Many blogs are written by individuals who wish to share their thoughts on a specific topic or their life in general, while others are written as multi-author collaborative efforts. Often, people can leave comments at the bottom of a blog post in order to encourage further conversation. Blogs have become very influential in modern culture and millions of people read them every day to get information and news. Popular blogging platforms include WordPress and Blogger.

Microblogs: A shorter version of blogs, micro-blogs allow authors to share quick bites of information rather than long articles. These include sites like Twitter, which limits posts to 140 characters, to Posterous and Tumblr. Microblogs do not have to be text-based, for example Pinterest which mainly focuses on people sharing images or videos; and they often allow users to follow others whose posts show up on a newsfeed within the platform.

Online rating sites: Anyone who has ever planned a trip or wanted to find out about local restaurants will probably have turned to an online rating site like TripAdvisor, Zagat or Google Places. Online rating sites allow people to leave reviews about a specific location, hotel, restaurant, etc so others can get an idea of the level of service to expect. This feature is also popular within e-commerce sites, including Amazon and eBay because so many people look to others' comments about a product before making a purchase.

Social bookmarking: Social bookmarking sites allow users to save and share their favourite websites from one location. Users can also rate these sites, tag them within categories and leave comments. Through this process, sites are recommend to others, therefore increasing visibility of the websites and helping people find content they would be interested in. Popular bookmarking sites include StumbleUpon, Del.icio.us and Digg.

Podcasts: Podcasts are most commonly a type of audio or video file that are syndicated online for people to download or stream through a computer or mobile device. Podcasts got their name from combining "broadcast" and "pod"—a reference to their popularity with iPod users.

Forums/ Message boards: One of the oldest types of social media, forums and message boards allow users to have a conversation about a specific topic. While these sites are not usually the most advanced in functionality and design, they are still popular with people who want to ask a question or get involved with a specific conversation online. Many forums and message boards will centre around a general topic, question or industry.

Social knowledge/Wikis: These sites rely on user-generated content to create a central hub of knowledge for others to refer to. Some of these sites are large and can be accessed by the public, for example Wikipedia, Answers.com, and Quora, while others can be restricted to a group of people who belong to the same organization.

Geo-location: This type of social media relies on establishing a user's location and is usually associated with mobile devices. Geo-location platforms allow users to check-in at certain locations, find friends nearby, and get vouchers for local businesses. FourSquare is an example of a popular geo-location platform, while other social networks like Facebook and Google+ integrate this functionality within their larger sites.

Multimedia: Users of these sites rely primarily on sharing multimedia like videos, photos, infographics, and PDFs rather than text. People can usually leave comments and share the content with others. Popular examples include YouTube, Instagram, Last.fm, and SlideShare.

2.3. SOCIAL MEDIA HISTORY[34]

BEFORE THE DAWN

1969	CompuServe was the first major commercial Internet service provider for the public in the United States. Using a technology known then as *dial-up*, it dominated the field through the 1980s and remained a major player until the mid-1990s.
1971	The first email was delivered.
1978	Two Chicago computer hobbyists invented the bulletin board system (BBS) to inform friends of meetings, make announcements and share information through postings. It was the rudimentary beginning of a small virtual community. Trolling and flame wars began.
1979	Usenet was an early bulletin board that connected Duke University and the University of North Carolina.
1984	The Prodigy online service was introduced. Later, it grew to become the second-largest online service provider in 1990, with 465,000 subscribers compared with CompuServe's 600,000. In 1994, Prodigy pioneered sales of *dial-up* connections to the World Wide Web and hosting services for Web publishers. Subsequently, it was resold repeatedly and now is part of AT&T.
1985	The America Online (AOL) service opened.
1989	British engineer Tim Berners-Lee began work at CERN (European Organization for Nuclear Research, in Switzerland), on what was to become the World Wide Web.
1992	Tripod opened as a community online for college students and young adults.
1993	CERN donated the WWW technology to the world. Students at NCSA (National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign) displayed the first graphical browser, *Mosaic*, and Web pages as we know them today were born. More than 200 Web servers were online.

THE DAWNING

1994	Beverly Hills Internet (BHI) started Geocities, which allowed users to create their own websites modeled after types of urban areas. GeoCities would cross the one million member mark by 1997. There were 38 million user Web pages on GeoCities before it was shut down for United States users in 2009. Yahoo, which opened as a major Internet search engine and index in 1994, owns GeoCities today and offers it only as a web hosting service for Japan. More than 1,500 Web servers were online in 1994 and people were referring to the Internet as the "*Information Superhighway*". EarthLink started up as an online service provider.
1997	The Web had one million sites. Blogging begins. SixDegrees.com lets users create profiles and list friends. AOL Instant Messenger lets users chat. Blackboard is founded as an online course management system for educators and learners.
1998	Google opens as a major Internet search engine and index.
1999	Friends Reunited, remembered as the first online social network to achieve prominence, was founded in Great Britain to relocate past school pals.
2000	In the world of business and commerce, the dot.com bubble burst and the future online seemed bleak as the millennium turned. Seventy million computers were connected to the Internet.
2001	Wikipedia, the online encyclopedia and world's largest wiki, was started. Apple started selling iPods.
2002	Friendster, a social networking website, was opened to the public in the U.S. and grew to 3 million users in three months. AOL had 34 million members.
2003	MySpace, another social networking website, was launched as a clone of Friendster. Linden Lab opened the virtual world Second Life on the Internet. LinkedIn was started as a business-oriented social networking site for professionals. There were more than 3 billion Web

pages. Apple introduced the online music service iTunes.

2004   Facebook, another social networking website, was started for students at Harvard College. It was referred to at the time as a college version of Friendster. MySpace surpassed Friendster in page views. Podcasting began on the Internet. Flickr image hosting website opened. Digg was founded as a social news website where people shared stories found across the Internet.

AFTER THE DAWN

2005   Bebo, an acronym for *Blog Early, Blog Often*, was started as another social networking website. News Corporation, a global media company founded by Rupert Murdoch, with holdings in film, television, cable, magazines, newspapers and book publishing, purchased MySpace. Facebook launched a version for high school students. Friends Reunited, now with 15 million members, was sold to the British television company ITV. YouTube began storing and retrieving videos. There were more than 8 billion Web pages.

2006   MySpace was the most popular social networking site in the U.S. However, based on monthly unique visitors, Facebook would take away that lead later, in 2008. Twitter was launched as a social networking and microblogging site, enabling members to send and receive 140-character messages called tweets. Facebook membership was expanded and opened to anyone over age 13. Google had indexed more than 25 billion web pages, 400 million queries per day, 1.3 billion images, and more than a billion Usenet messages.

2007   Microsoft bought a stake in Facebook. Facebook initiated Facebook Platform which let third-party developers create applications (apps) for the site. Facebook launched its Beacon advertising system, which exposed user purchasing activity. Beacon sent data from external websites to Facebook so targeted advertisements could be presented. The civic action group MoveOn.org and many others protested it as an invasion of privacy. Beacon was shut down in

2009. Apple released the iPhone multimedia and Internet smartphone.

2008 Facebook surpassed MySpace in the total number of monthly unique visitors. Meanwhile, Facebook tried unsuccessfully to buy Twitter. Bebo was purchased by AOL. Later, AOL would re-sell the relatively-unsuccessful social media site.

2009 Facebook ranked as the most-used social network worldwide with more than 200 million. The site's traffic was twice that of MySpace. Citizen journalists everywhere were electrified when Twitter broke a hard news story about a plane crash in the Hudson River. The *New York Times* later reported a user on a ferry had sent a tweet, "There's a plane in the Hudson. I'm on the ferry going to pick up the people. Crazy." *Unfriend* was the *New Oxford American Dictionary* word of the year. Microsoft's Bing joined Yahoo and Google as major search engines on the Internet. ITV sold the relatively-unsuccessful Friends Reunited social media site to Brightsolid Limited. It's estimated that a quarter of Earth's population used the Internet. Google saw one trillion unique URLs – after eliminating duplicate entries. The Internet had at least 27 billion web pages and could have had as many as 58 billion web pages. They changed so many times a day it was nearly impossible to count.

2010 Facebook's rapid growth moved it above 400 million users, while MySpace users declined to 57 million users, down from a peak of about 75 million. To compete with Facebook and Twitter, Google launched Buzz, a social networking site integrated with the company's Gmail. It was reported that in the first week, millions of Gmail users created 9 million posts. Apple released the iPad tablet computer with advanced multimedia and Internet capabilities. AOL sold the relatively-unsuccessful Bebo social media site to Criterion Capital Partners. The Democratic National Committee advertised for a social networks manager to oversee President Barack Obama's accounts on Facebook, Twitter and MySpace. It was estimated the

population of Internet users was 1.97 billion. That was almost 30 percent of the global population. It was estimated the population of Internet users was 1.97 billion. That was almost 30 percent of the global population. The Internet had surpassed newspapers as a primary way for Americans to get news, according to the Pew Internet and American Life Project. The Internet was the third most popular news platform, with many users looking to social media and personalized feeds for news. National and local TV stations were strong, but the Internet was ahead of national and local newspapers.

2011

Picture 4: Social media are widely spread, becoming an integral part in our routine. (src: http://area2oh3.com/five-sm-newyears-resolutions/)

Social media were accessible from virtually anywhere and had become an integral part of our daily lives with more than 550 million people on Facebook, 65 million tweets sent through Twitter each day, and 2 billion video views every day on YouTube. LinkedIn has 90 million professional users. Social media commerce was on the rise along with mobile social media via smartphones and tablet computers. Public sharing of so much personal information via social media sites raised concern over privacy. Apple introduced the Ping social network for music and integrated with iTunes. Both MySpace and Bebo were redesigned and updated to compete with the far more successful social networks Facebook and Twitter. It was estimated Internet users would double by 2015 to a global total of some four billion users, or nearly 60 percent of Earth's population.

2012 Ever more people are connecting to the Internet for longer periods of time. Some 2 billion people around the world use the Internet and social media, while 213 million Americans use the Internet via computers while 52 million use the Web via smartphone and 55 million use it via tablets. People also connect to the Internet via handheld music players, game consoles, Internet-enabled TVs and e-readers. It is estimated Internet users would double by 2015 to a global total of some four billion users, or nearly 60 percent of Earth's population. Social media has come of age with more people using smartphones and tables to access social networks. New sites emerge and catch on. The top ten social networks are Facebook, Blogger, Twitter, Wordpress, LinkedIn, Pinterest, Google+, Tumblr, MySpace and Wikia. More than half of adults 25-34 use social media at the office. Almost a third of young adults 18-24 use social media in the bathroom. All use social networks to stay connected with acquaintances, be informed and be amused. Advertisers look to social "likes" to enhance brand visibility. Facebook reached a billion users in 2012. YouTube has more than 800 million users each month with more than 1 trillion views per year or around 140 views for every person on Earth. Seventy percent of YouTube traffic comes from outside the U.S. YouTube is local in 43 countries and uses 60 languages. Some 72 hours of video are uploaded to YouTube every minute with more than 4 billion hours of video watched each month on YouTube. Apple closed the Ping social network in 2012 and improved iTunes. Public sharing of so much personal information via social media continues to elevate privacy concerns.

2013 YouTube topped one billion monthly users with 4 billion views per day, and launched paid channels to provide content creators with a means of earning revenue. Facebook user total climbed to 1.11 billion. Twitter had 500 million registered users, with more than 200 million active. Apple's customers have downloaded over 50 billion apps and the company again improved iTunes, even as iPads were revolutionizing social games. Yahoo purchased Tumblr blogging-

social media network, with 170 million users and 100 million blogs. Flickr had 87 million users and stored 8 billion photos, while Instagram had 100 million users storing 4 billion photos. LinkedIn had 225 million users, while MySpace had 25 million users. Pinterest had 48.7 million users, while WordPress hosted 74 million blogs. Dropbox had more than 100 million users with 1 billion files uploaded daily. Google+ had 343 million users. Reddit had 69.9 million monthly users, with 4.8 billion monthly page views. The People's Liberation Army of China and the Syrian Electronic Army rose among the gaggle of infamous hackers. Privacy concerns continued over public sharing of personal information on social networks. There were 156 million blogs. Blogs, online videos and podcasts continue to be staples for marketers. An Australian survey found 34 percent of social network users logged on at work, 13 percent at school, and 18 percent in the car, while 44 percent used social networks in bed, 7 percent in the bathroom, and 6 percent in the toilet. Astronauts aboard the International Space Station regularly tweeted live from space to a global audience.

2.4. EXISTING SOCIAL NETWORKING SITES

"Social network sites are web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site."[35]

A social network has become more than a virtual platform to reunite with school and university friends. Social networks like LinkedIn are of course aimed at professionals while Twitter is in a different context to Facebook. YouTube also caters to a different niche but all have a basic commonality among them – They are all social networks that bring together millions of people all over the world onto one platform for a specific purpose.

While people primarily get together on Facebook to stay connected with friends, Twitter works on a different concept of staying updated with what people, celebrities, corporations, news agencies and world leaders have to say, share and update. LinkedIn caters to the niche of professionals and businesses

while YouTube is completely different and is the most powerful video social network in the world.

2.4.1. THE MOST POPULAR SOCIAL NETWORKING SITES

Facebook
To access Facebook.com, you must create an account on the site which is free. Facebook's terms of use state that members must be at least 13 years old with valid email ID's. After updating you're details, your Facebook profile is generated. Facebook has recently crossed 500 million users and is the most popular Social Networking site of the world. Using Facebook.com you can:

- Browse and join networks, which are organized into four categories: regions, colleges, workplaces and high schools.
- Pull contacts from a Web-based e-mail account, into Facebook.com.
- Find friends in several ways, including search engine to look for a specific person and lot more.

MySpace
On MySpace, your social network starts growing from the first day. When you join MySpace, the first step is to create a profile. You then, invite friends to join there and search for your friends on already profiled on MySpace these friends become your initial Friend Space. Once the friendship is confirmed all the people in your friends' Friend Space become part of your network. In that sense, everyone on MySpace is in your Extended Network. As part of terms of MySpace, the user must be at least 14 years old to register.

Twitter
Twitter is a very simple service that is rapidly becoming one of the most talked-about social networking service providers. When you have a Twitter account, you can use the service to post and receive messages to a network of contacts, as opposed to send bulk email messages. You can build your network of contacts, and invite others to receive your Tweets, and can follow other members' posts. Twitter makes it easy to opt into or out of networks. Additionally, you can choose to stop following a specific person's feed.

LinkedIn

LinkedIn is an online social network for business professionals, which is designed specifically for professional networking, to help them find a job, discover sales leads, connect with potential business partners. Unlike most of the other social networks, LinkedIn does not focus on making friends or sharing media like photos, videos and music. To start using LinkedIn you need to register and create a profile page. To register to LinkedIn, you need to provide personal information. You can update the profile with your education and job details and a summary. Additionally, you can also give and receive recommendations from co-workers and bosses. There are more than 75 million professionals registered on LinkedIn.

Xing

Xing, (formally known as openBC/Open Business Club) is a professional networking tool. It is popular in countries like Germany, Spain, Portugal, Italy and France. Xing is similar to LinkedIn and claims to have professionals from over 200 countries. Xing has two features Basic and Premium, depending on weather the user wants to use the site for free or at a cost. It is available in different languages including English, German, Spanish, Portuguese, Italian, French, Dutch, Chinese, Finnish, Swedish, Korean, Japanese, Russian, Polish, Turkish and Hungarian; French and German being the most popularly.

Pinterest

is a pinboard-style photo-sharing website that allows users to create and manage theme-based image collections such as events, interests, and hobbies. Users can browse other pinboards for images, "re-pin" images to their own pinboards, or "like" photos. The site was founded by Ben Silbermann, Paul Sciarra, and Evan Sharp. It is managed by Cold Brew Labs and funded by a small group of entrepreneurs and investors.

Tumblr

stylized in their logo as **tumblr**, is a microblogging platform and social networking website founded by David Karp and owned by Yahoo! Inc.. The service allows users to post multimedia and other content to a short-form blog. Users can follow other users' blogs, as well as make their blogs private. Much of the website's features are accessed from the "dashboard" interface, where the option to post content and posts of followed blogs appear.

Flickr

(stylized as **flickr** and pronounced "flicker") is an image hosting and video hosting website, and web services suite that was created by Ludicorp in 2004 and acquired by Yahoo! in 2005. In addition to being a popular website for users to share

and embed personal photographs, and effectively an online community, the service is widely used by photo researchers and by bloggers to host images that they embed in blogs and social media.

DeviantArt

is an online community showcasing various forms of user-made artwork. It was first launched on August 7, 2000 by Scott Jarkoff, Matthew Stephens, Angelo Sotira and others. deviantArt, Inc. is headquartered in the Hollywood area of Los Angeles, California, United States. DeviantArt aims to provide a platform for any artist to exhibit and discuss works. Works are organized in a comprehensive category structure, including photography, digital art, traditional art, literature, Flash, filmmaking, skins for applications, operating system customization utilities and others, along with extensive downloadable resources such as tutorials and stock photography. Additional utilities include journals, polls, groups and portfolios.

StumbleUpon

is a discovery engine (a form of web search engine) that finds and recommends web content to its users. Its features allow users to discover and rate Web pages, photos, and videos that are personalized to their tastes and interests using peer-sourcing and social-networking principles.

YouTube

Is a video sharing website, created by 3 former PayPal employees in February 2005 and owned by Google since late 2006, on which users can upload, view and share videos. The company is based in San Bruno, California, and uses Adobe Flash Video and HTML5technology to display a wide variety of user-generated video content, including movie clips, TV clips, and music videos, as well as amateur content such as video blogging, short original videos, and educational videos.

CHAPTER 3

INCREASING WEB SITE TRAFFIC

Increasing web site traffic without doubt has **numerous benefits**, and achieving steady growth should be a constant objective.

There are times when an increase in web site traffic needs to be raised quickly, and for a set period of time, for special promotions, web site traffic analysis and testing the effectiveness of various landing page and other web site features.

One of the most difficult aspects of running a web site or blog is increasing traffic. Building a web site is the easy part. Promoting it the right way is a totally different concept.

The internet marketing provides numerous ways to efficiently promote your website and increase your web traffic. Also there are many sources of traffic, others popularly known while others not so popular.

3.1. METHODS TO INCREASE WEB TRAFFIC

Search engines: There are three direct ways to increase search engine traffic. The first and most important step is to optimize a web site for search engines and second by obtaining high quality links from other web sites. The third method is to provide new content on a daily basis so as to create more loyal visitors and give search engine crawlers one more reason to visit the web site.

Social Media: Social media is a great tool to spread the word when you launch a web site or new content (or products). In order for social media campaigns to be successful we need to have a large user base (fans, followers, and friends) and also need to have good content.

Mobile Media: Modern mobiles (smartphones) are connected to the Internet through Wi-Fi or direct Internet connection and people actually use them to search the Internet, login to Facebook, tweet etc. So it is important to optimize the web site for mobile and make it easy for users to find a brand while on the go.

Chrome App store: Google Chrome is the most popular browser and has millions of users searching the Internet on a daily basis. Chrome has a web store as well and as it turns out it is a great source of traffic.

YouTube and Slideshare: People love videos and slideshows and in most cases they will prefer those media sources over reading plain text. Depending

on the web sites topic we can create a Youtube channel or Slideshow and gain from an additional source of traffic.

Paid Advertising: Advertising is a good way to put products or brand in front of customers. If you are running an online shop you can get new customers and if you are running a web site or blog you can get new subscribers and loyal visitors.

RSS Feeds: A large number of people are still using RSS to stay informed or follow their favorite web sites. Web sites that managed to build a large number of RSS subscribers have fewer worries about SEO and other sources of traffic.

3.2. SEARCH ENGINE OPTIMIZATION (SEO)

Search Engines get used profusely every second. The search engine is the first stop for web users when they are looking for a product, service or any kind of information. The search engine will give back a list of results to a given search query, based on the technology that it uses. The user then will sort out the websites that matches their request. The internet is growing rapidly every day, so that a simple request could lead into thousands of pages being returned by a search engine. Most of the times the user will select the top results and the chances are that he won't go to page number two. Therefore, what can a web designer or a website manager does to promote a web site? What methods can they use so their website will be included among the top results?

   One of the top techniques to achieve this is **Search Engine Optimization**. Jerri Ledford (2008) defines the term SEO as *"Improving a web site in an attempt to attract search engine crawlers"*. A crawler is a piece of software that selects websites and indexes their contents for the purposes of building a search database.

3.2.1. SEO METHODS

   There are numerous different techniques which can be called SEO methods. There are two categories, white hat methods and black hat methods. Black hat methods are SEO techniques that will try to "fool" or "cheat" the search engine so that a website will get a higher ranking. A site that uses these Black Hat techniques can be removed completely from search engine results pages (SERP) by the search engine. Methods such as sitemaps, reciprocal links, and content management are White Hat techniques. The following are safe methods and considered to be standard white hat SEO methods which can be applied to websites to improve search ranking.

KEYWORDS AND KEYWORD SELECTION

Keyword selection is one of the first steps in implementing a search engine optimization strategy.

Keyword selection can vary greatly based on the type of Web site the client requires. Static sites (sites that are simple HTML pages and are not database driven) by definition are limited to a defined number of keywords, whereas, dynamic sites (sites that are database driven) can be optimized for an unlimited number of keywords. If a static site is predetermined to contain 5 pages, then the number of keywords is limited to those five pages. With dynamic sites it is easier to optimize for single or two word keyword phrases as well as plural and singular terms.

When creating a new site from ground up, it is wise to select the number of possible keywords you want from the beggining. The next step is to plan the architecture of the site based on the keyword selection criteria. If the client sells 10 different products, it would be good to create a 10-page site, plus pages for contact information and other boilerplate content.

Based on the type of site we decide to create or currently have,selecting keywords is crucial. The first step in developing a keyword list is to have a brainstorming session. Anything that comes to mind should be written down.

After building a keyword list, we have to prune the list down. There are certain factors we have to keep in mind when pruning the list.

- Many search engines do not do "word stemming" (word stemming is adding on to the end of the word, for example the word "keyword" and "keywords"),
- Most people type keywords into a search engine all in lower case, and
- It is generally easier to rank well for longer keyword phrases.

There are plenty of free and low cost tools available on the Internet to assist in the keyword development stage.

Google Adwords Keyword Suggestions[36]: This tool is provided by Google to help advertisers determine the best keywords for their sites. This tool functions a lot like Overture's but does not display the frequency of searchers for each keyword. It does however provide a detailed listing of keyword suggestions based on the keyword you entered. And since Google is the most popular search engine, its list represents an accurate representation of data.

Search Engine Related Matches: Many search engines and directories including Yahoo!, MSN contain keyword suggestions after conducting a search. For example, if we make a random search we will see that Yahoo! has the words "related" directly under the search box followed by related keywords.

MSN Search has a box directly below the search box that says "narrow your search" followed by similar keywords.

The next step is to **place these keywords** in the various locations throughout our page's code.

The places where the keywords should be placed are:

- Title Meta Tags (not more than 60 characters)
- Anchor Text (incoming and internal)
- Header Tag Content (i.e. H1, H2, H3, H4, H5)
- Title Tag in Anchor Tags
- Bold/Italic Tag Content
- Body Text on top, middle and bottom of page
- Alt Tags in Pictures that are Links
- URL/Filenames
- Meta Keyword Description
- Alt Tags in Pictures that are not Links

Keyword development takes time. Keyword selection is thus an extremely important part of the overall SEO process. It is important to select the right keywords and use the right tools in the keyword development stage. It is then important to place these keywords throughout the site for the search engines to properly rank based on their constantly changing algorithms.[37]

RELEVANT CONTENT

Having content relevant to the main page or site topic is perhaps the most important SEO aspect of a page. If the actual readable text on the page is not relevant to the target keywords, it ends up being useless.

It is important to include as many keywords in the page copy as possible. It is equally as important for it to read well and make sense. The key is to make it relevant, and to have it make sense to the reader.

INTERNAL LINKS CONTENT

Internal links are links that go from one page on a domain to a different page on the same domain. They are commonly used in main navigation. It is very important that each page on the site can be visited. If a page is not linked to other pages it cannot be visited by the spider. "Your internal links (links to pages within your domain) should be all connected together so a spider can get anywhere from any point wherever it starts from" - **Standing, Chris (2006).** By the term spider we actually mean a web crawler which is an Internet bot that systematically browses the World Wide Web, typically for the purpose of Web

indexing. Internal linking helps lay the foundation of the SEO efforts. It allows us to indicate to search engines which pages of content are the highest priority, as well as which pages are thematically related to one another.

A solid internal linking strategy goes beyond simply linking to the most important pages. By considering the user's needs and ensuring consistency from the technical side of things, we can create an internal linking strategy that is natural, intuitive and aligned with conversion goals.

Conclusion

To begin with SEO can be a great challenge for every web designer or developer. It is also tempting to launch into the effort just to get things moving. However, spending time on setting up the SEO strategy before implementation will definitely come to fruition.

3.3. SOCIAL MEDIA OPTIMIZATION (SMO)

Known also as SMO, social media optimization is the process of increasing the awareness of a product, brand or event by using a number of social media outlets and communities to generate viral publicity. Social media optimization includes using RSS feeds, social news and bookmarking sites, as well as social media sites and video and blogging sites. SMO is similar to SEO (search engine optimization) in that the goal is to drive traffic to your Web site.[38]

Social Media Optimization (SMO) is a new term that was recently coined by Rohit Bhargava and has since been taking on life of its own. Rohit draws similar comparisons to SEO. SMO tactics can drive huge amounts of people to a website and can also determine whether a startup, website or idea will make it or not. It involves driving traffic to a website through new channels because search engines aren't the only sites that drive big traffic anymore. While it's not taking over SEO yet, it has the potential to someday soon.

For years now, Search Engine Optimization (SEO) for websites has been honed into a fine art with entire companies devoting considerable effort to defining best practices and touting the value of SEO for raising a site's performance on organic search listings. The concept behind SMO is simple: implement changes to optimize a site so that it is more easily linked to, more highly visible in social media searches on custom search engines, and more frequently included in relevant posts on blogs, podcasts and vlogs. The following are **five rules that Rohit Bhargava** suggests to increase web traffic with SMO techniques:

1. **"Increase your linkability:** This is the first and most important priority for websites. Many sites are "static" – meaning they are rarely updated and used simply for a storefront. To optimize a site for social media, we need to increase the linkability of the content. Adding a blog is a great step, however there are many other ways such as creating white papers and thought pieces, or even simply aggregating content that exists elsewhere into a useful format."

2. **"Make tagging and bookmarking easy:** Adding content features like quick buttons to "add to del.icio.us" are one way to make the process of tagging pages easier, but we go beyond this, making sure pages include a list of relevant tags, suggested notes for a link (which come up automatically when you go to tag a site), and making sure to tag our pages first on popular social bookmarking sites (including more than just the homepage)."

3. **"Reward inbound links:** Often used as a barometer for success of a blog (as well as a website), inbound links are paramount to rising in search results and overall rankings. To encourage more of them, we need to make it easy and provide clear rewards. From using Permalinks to recreating Similarly, listing recent linking blogs on your site provides the reward of visibility for those who link to you."

4. **"Help your content travel:** Unlike much of SEO, SMO is not just about making changes to a site. When you have content that can be portable (such as PDFs, video files and audio files), submitting them to relevant sites will help your content travel further, and ultimately drive links back to your site. "

5. **"Encourage the mashup:** In a world of co-creation, it pays to be more open about letting others use your content (within reason). YouTube's idea of providing code to cut and paste so you can imbed videos from their site has fueled their growth. Syndicating your content through RSS also makes it easy for others to create mashups that can drive traffic or augment your content."[39]

Social media optimization is quickly becoming a very important area of the web therefore many web analysts based on the 5 rules of Rohit Bhargava contributed to his work by suggesting more rules that could give a more précised interpretation of what SMO is and how it could help to increase a website traffic.

Jeremiah Owyang , an industry analyst, and partner at Altimeter Group added:

6. **"Be a User Resource, even if it doesn't help you:** Add value to users, including outbound links to areas that could help them with their goals

and purposes. Deployed corrected, even if you link to competitors you stand to gain as the communities' first source of information finding. How will this help SMO? Folks will link to your social site and tag is as helpful or the 'ultimate' guide in that space. As this adds up, it will become more and more relevant in search engine results."

7. **"Reward helpful and valuable users:** Often helpful or popular users will be influencers and champions within your social site, devise ways to elevate them buy promoting their works on the homepage, or develop a rating system. Sometimes a quick email or note in private telling them you appreciate them can go a long way. Some folks have done that to me, and for communities I run, I do that as well. Only do if sincere. Perhaps this is not truly SMO, but it will help to keep the most valuable members of a community closer to your site."

Cameron Olthuis VP, Search & Social Strategies at CBS Interactive added:

8. **"Participate:** Join the conversation. Social Media is a two way street, let's not forget that. By conversing with the community you are creating awareness and prolonging your buzz. You are keeping it going and this often results in a snowball effect. Participating helps your message spread further and faster."

9. **"Know how to target your audience:** If you don't even know your target audience you are in trouble. I would love to have everyone using my product too, but you need to be realistic. There is always going to be a certain audience you can appeal to and others that you can't. So know your appeal and who it is appealing to."

10. **"Create content:** There are certain kinds of content that just naturally spread socially. It does not matter what industry you are in and what boring products you sell, there is always some kind of content that can be created that will work. Whether it is creating widgets, making people laugh, or writing a whitepaper, it can be done. Know what type of content can work for you and create it."

11. **"Be real:** The community does not reward fakers. While social media optimization is becoming very important you can't forget about good old SEO either. Google and Yahoo still drive mass amounts of traffic and you cannot ignore them. It is all about leveraging new mediums and riding these waves. Even though you might be getting dirt on the white glove you still have to take advantage of these powerful channels."

Given the importance of the referral traffic and the fact that many search engines, including Google, Bing and Scour are currently incorporating social actions into their search results, having a strategy for socializing your website

and your content is increasingly important. Social media optimization gives us great tools to build this strategy.

3.4. SOCIAL MEDIA MARKETING (SMM)

Social media marketing refers to the **process of gaining traffic or attention** through social media sites.[40] Social media itself is a catch-all term for sites that may provide radically different social actions. For instance, Twitter is a social site designed to let people share short messages or "updates" with others. Facebook, in contrast is a full-blown social networking site that allows for sharing updates, photos, joining events and a variety of other activities. Why would a search marketer — or a site about search engines — care about social media? The two are very closely related.

Social media often feeds into the discovery of new content such as news stories, and "discovery" is a search activity. Social media can also help build links that in turn support into SEO efforts. Many people also perform searches at social media sites to find social media content.[41]

Social media marketing programs usually center on efforts to create content that **attracts attention** and encourages readers to share it with their social networks. A corporate message spreads from user to user and presumably resonates because it appears to come from a trusted, third-party source, as opposed to the brand or company itself. Hence, this form of marketing is driven by word-of-mouth, meaning it results in earned media rather than paid media.[42]

Like any aspect of marketing, social media marketing **requires a directive**; a game plan. The objective is to route your path to get from point A to point B.

Step 1: **Develop a Campaign Objective. The objective should be narrow and focused.**
A reasonable goal would be to engage customers in order to increase brand awareness. An unreasonable goal would be to increase sales and increase customer satisfaction.

The focus of each campaign will be different, but we can have multiple campaigns going on at one time. Business to business objectives on LinkedIn , customer relations on Facebook, research and development through Twitter, or any variation of these with other goals and services.

Step 2: **Choose the Right Medium**
Unfortunately, this part takes some trial and error. Fortunately, many large companies have already done the research. Knowing your audience in each

medium takes time. The most successful functions of each as they have been observed and as we mentioned in chapter 2 are:

- **Twitter:** Commonly used for branding. Retweets and trends are the quickest ways to get something noticed. 58% of users follow brands to find discounts. 39% of users follow brands for contests. If you have a sale, event, contest, or any limited time special, this is the place to post it.
- **Facebook:** This can act as a very successful feedback tool and it is a great tool for local businesses. It has more of an open forum format. With the introduction of timelines, branding will become more prominent.
- **LinkedIn:** This is the best 'tried and true' method for business to business communications. With almost 2.5 million different businesses on LinkedIn, you have a vast opportunity to network with companies that could help you.
- **Pinterest:** Post product ideas to Pinterest. This site is perfect for boutique or specialty stores. The American Pinterest population is over 60% female. The ratios are much more in most other countries.
- **Google+:** This is a very consumer driven site. It also lends itself well to Google's other features. Since it is so customer driven and pages from Google+ gain ranks in search results, this is a prime candidate for any business with a focused niche market.
- **YouTube:** Uploading videos, could be useful as a buffer for other social media efforts. This is popular for service industries and industries with complex products.Tutorials are very popular.

Step 3: Produce Quality Content

Ask any seasoned marketer, and they will tell you the same thing: content is king. This holds true for social media marketing. There are massive amounts of posts and tweets being thrown at a single user at any given time. So, it is important that your posts not only get noticed, but you make them count and they make users *want* to read them.

Step 4: Set Up A Content Management System & Monitor Data

There are many programs that could help with this process, the difficult part is to choose the right one that suits our needs. Below are some questions that could help us decide what is best for our purpose.

- **Multiple Platforms or Single Platform:** From the beggining, we can narrow our search by only considering applications with multiple data sources, or considering those with only one data source. If we are only using one social media site, we may want to consider a specialized program for that site. However, the most common is to have a single program to support all of our different social networks.

- **Campaign Goal:** Whether our focus is developing our brand awareness, or increasing our sales, there are specialized programs for managing and monitoring these tasks. There are more goals that can be monitored through these applications than we can think of. Keyword tracking, article tracking, tracking your competition, uploading content, and so much more can be accomplished.

- **Usage:** Will we be using our system to monitor our posts, track our data, or streamline content distribution? Many programs offer the ability to do almost anything we could want, and probably things we haven't even considered. When we choose a program, we should be fully aware of what it was designed to do.

- **Audience:** Just as there are a variety of goals and actions, there are varieties of services catering to specific audiences. If we Focus on business to business communications then we should get a business to business focused application. If we focus on consumer interaction then we should get a business to consumer application. There are hybrid applications available as well.

- **Size of your business:** There are applications specifically designed for the needs of small, medium, or large businesses. At a small business, we may prefer to choose a simple application without features that we would never use. At a larger business, the small business platforms may not be able to perform as well as we need it to, or provide the analytics we are looking for.

Step 5. Revise & Repeat

1. Measure and monitor our activities.

2. Analyze the data and look at where we need improvement in our company.

3. Start back at step 1.

Conclusion

Social media is NOT simply about brand marketing, there are many different ways social media marketing can develop our business. It is valuable as a branding method, but it is much more than that.

For this reason, things like fan base, or number of followers are not as important as the amount of interaction we get from the user base we have. If we can increase interaction, our extraction metrics increase, but our exposure metrics remain somewhat constant. It works the same the other way around as well.

Measure our marketing value and the value of improvements in the extremities. Apply both exposure and extraction methods to monitor these effects.

Through either simple networking, or marketing, these social media outlets help websites gain an online presence rapidly. They allow one to reach their target audience regardless of which part of the world they reside in. Another great advantage of social media marketing is, when done well, it could help enhance the search engine friendliness of one's website.

Effective social media marketing would help generate a good number of quality backlinks to one's site. These tools help the members of social networks to resend links to one's websites to other interested viewers, hence adding more backlinks and increasing the popularity of one's website. This way, their social media marketing campaign achieves two purposes-increasing search engine ranking and online visibility.

In conclusion, social media marketing is effective and natural. It is a great source of web traffic, and achieves great results at a low cost. This form of marketing would work well with any other advertising campaign.[43]

CHAPTER 4

WEB ANALYTICS

There are many definitions about what Web analytics are. The always venerable Wikipedia provides the following:

"*Web analytics is **the measurement, collection, analysis and reporting of internet data** for purposes of understanding and optimizing web usage. Web analytics is not just a tool for measuring web traffic but can be used as a tool for business and market research, and to assess and improve the effectiveness of a web site. Web analytics applications can also help companies measure the results of traditional print or broadcast advertising campaigns. It helps one to estimate how traffic to a website changes after the launch of a new advertising campaign. Web analytics provides information about the number of visitors to a website and the number of page views. It helps gauge traffic and popularity trends which is useful for market research.*"

Basically web analytics are tools **that collect data about our website**, site visitors and how our visitors use our site. This data can then be analyzed to make sure our site is organized correctly, gauge the effectiveness of content or marketing campaigns, and whether or not people are interacting with our site in the way that we envision.

Web analytics is a **generic term** meaning *the "study of the impact of a website on its users"*. Ecommerce companies and other website publishers often use Web analytics software to measure such concrete details as how many people visited their site, how many of those visitors were unique visitors, how they came to the site (i.e., if they followed a link to get to the site or came there directly), what keywords they searched with on the site's search engine, how long they stayed on a given page or on the entire site and what links they clicked on and when they left the site.

Web analytic software can also be used to monitor whether or not a site's pages are **working properly**. With this information, Web site administrators can determine which areas of the site are popular and which areas of the site do not get traffic. Web analytics provides these site administrators and publishers with data that can be used to streamline a website to create a better user experience.

4.1. WEB ANALYTIC TOOLS

Websites are growing in the share of sales as well as new customer acquisition. That implies that every business, big or small, start-up or established, needs to have a **digital presence through a website**. Most consumers search for product reviews and pricing on the Internet prior to making purchases. Hence, understanding the performance of the evolving digital (web) channel is critical to success of your business.

Fortunately, there are a **variety of tools** available with varying capabilities to measure and analyze the websites called Web Analytics tools. **Gartner** defines Web Analytics applications as "specialized analytic applications used to understand and improve online channel user experience, visitor acquisition and actions, and to optimize digital marketing and advertising campaigns". These products also have reporting, user behavior analyses, pathing, segmentation and targeting capabilities, performance management and integration with other business, digital marketing and other data sources.

Web Analytics tools[44] are customizable for any level of users from CXO to Web Analyst. The tools allow you to create dashboards, reports and alerts to monitor website performances. In the following section, we will discuss some distinguishing features of the most popular tools in the industry.

4.1.1. GOOGLE ANALYTICS

Google's **free analytics tool** provides a wealth of information about who visits our site, how they find it, and what they do on it once they arrive. The first thing we need to do is sign up for a Google Analytics account. Once we sign up, we're presented with a code and instructions on how to add the code to our

website. This code tracks activity (not people) every time our web pages are viewed and the data gathered can be viewed in easy to understand reports.
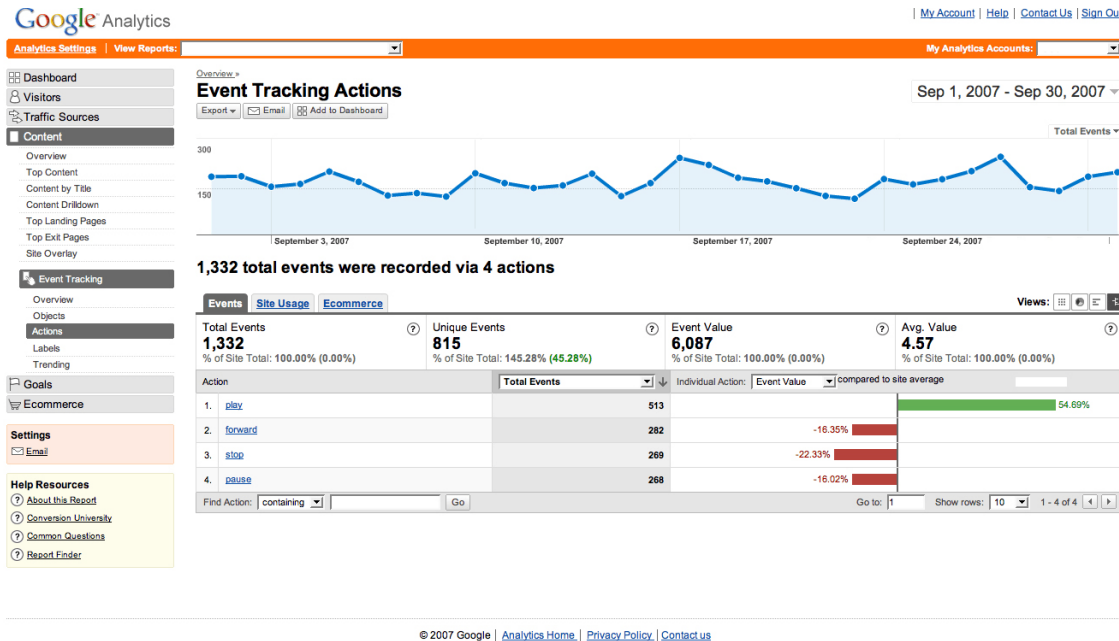
Picture 5: Google Analytics workspace. (src: http://www.billaut.net/)

This free tool comes with lots of **great functionalities** such as dashboards and custom reports. We can also create segmentation for deep dive analyses by audience, traffic source, advertising campaigns, site content (pages). It integrates with Google Adwords seamlessly. We can set a number of goals for our conversion funnels. It uses JavaScript tags for capturing data and implementation is very easy. However, it is not real time and usually has a few hours of lag. It also does not allow user level data collection and integration with external data.

4.1.2. ADOBE SITECATALYST

Sitecatalyst is a widely used **enterprise strength tool in industry**. It provides various reporting, segmentation, conversion funnels, traffic source, advertising, sales channel analytics tools. Although it uses JavaScript tags, implementation is complex and requires upfront planning and configurations of eVars, sProps and events. It also provides ClickMap tool as an add on. Many third party tools can integrate with Sitecatalyst. Adobe also provides many data adapters to bring in data from third party sources. The data is accessible real time. It also offers Discover tool (for an additional fee) to access the data

warehouse for deep dive analytics. Adobe (and Omniture) has been acquiring many companies (e.g. Test and Target) to provide one stop shop for all the digital marketing needs.

Picture 6: Adobe sitecatalyst workspace. (src: http://www.aboutanalytics.com/adobe/adobe-analytics)
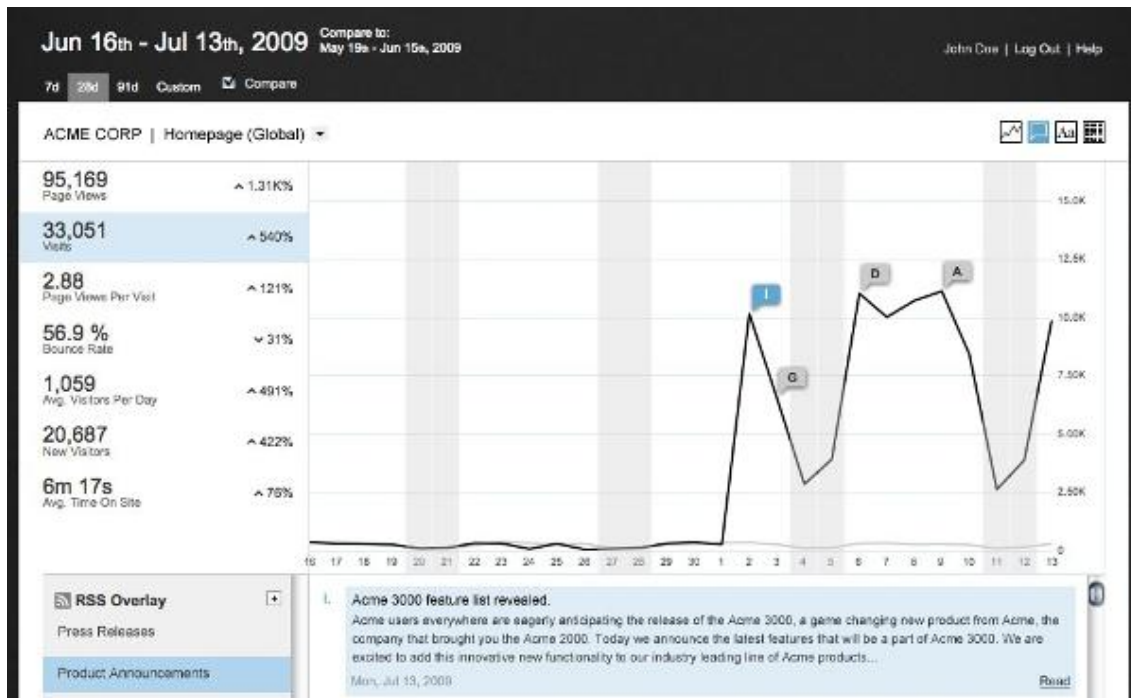
4.1.3. WEBTRENDS

Picture 7: Webtrends workspace. (src: http://www.ombud.com/product/images/webtrends-social#3078)

This is the only **independent provider** left that offers strong enterprise web analytics tool used across the industry. The tool offers visitor analyses, segmentation and behaviour analyses as well as testing and targeting capabilities for personalised experience. It has expanded to other digital channels such as mobile and social networks leading in capabilities. It offers clickstream and pathing capabilities.

4.1.4. IBM WEB ANALYTICS

Acquired by IBM, now it is part of Enterprise Marketing Management solutions, along with other recent acquisitions. This is designed for **e-commerce** from reporting to implementation. It uses server side logs and implementation is relatively less complex.
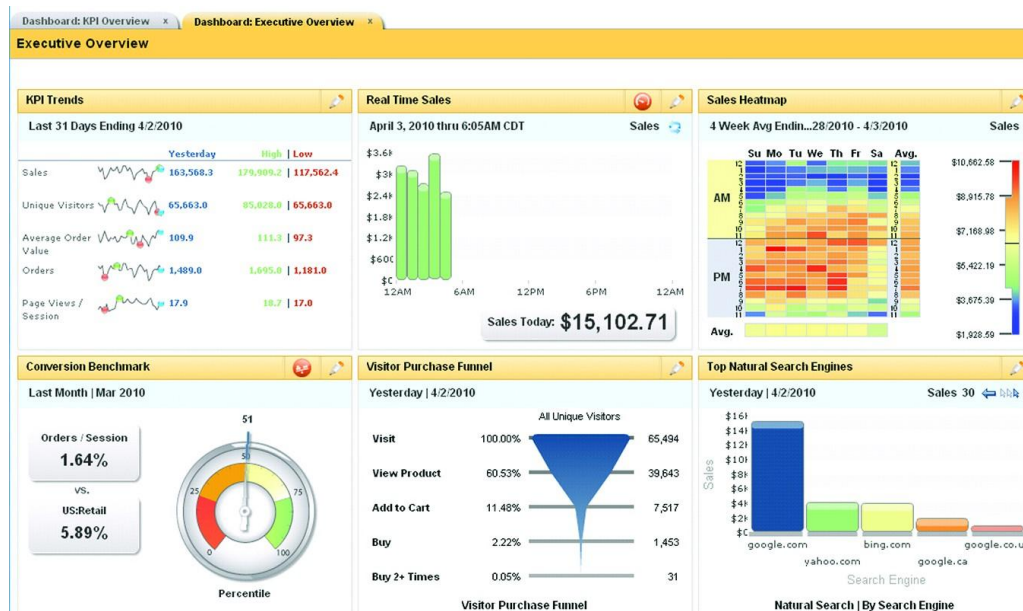
Picture 8: IBM web analytics workspace. (src: http://www-03.ibm.com/software/products/us/en/digital-analytics/)

4.1.5. AWSTATS

This is a **free tool** that provides functionalities similar to Google Analytics, however using server log files. It is an open source application. Most web-hosting providers offer this tool bundled with the service. It is very easy to set up and provides basic metrics.
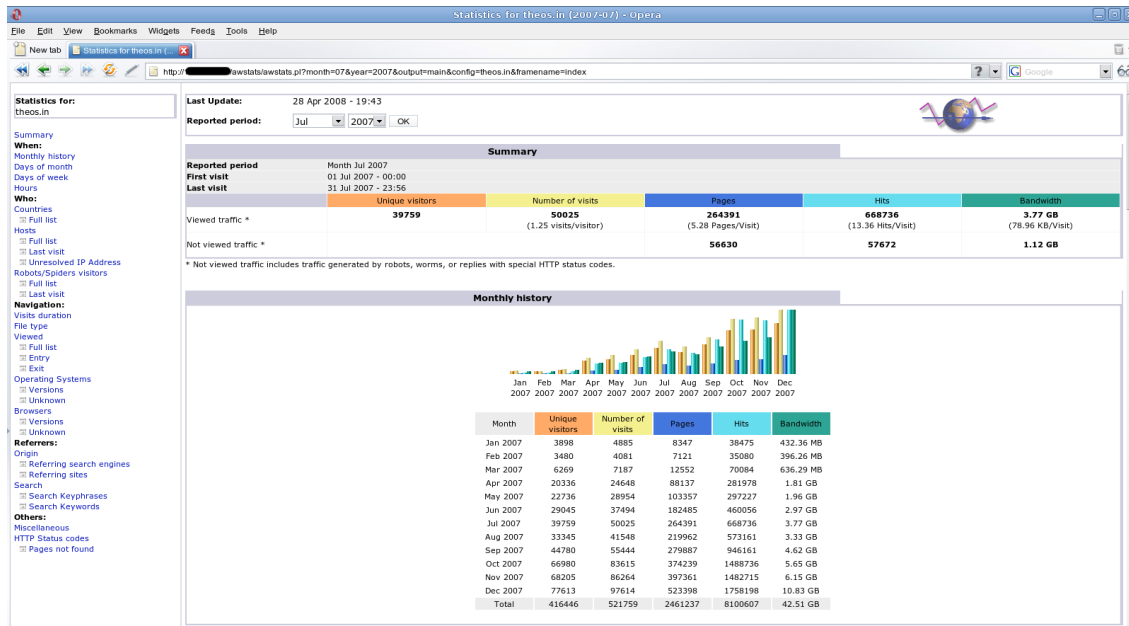
Picture 9: AWstats workspace. (src: http://www.cyberciti.biz/tips/lighttpd-web-server-awstats-tutorial.html)

4.2. SEMANTIC WEB & DATA MINING

4.2.1. SEMANTIC WEB

The Semantic Web is a web that is **able to describe things** in a way that computers can understand.

_The Beatles was a popular band from Liverpool.

_John Lennon was a member of the Beatles.

_"Hey Jude" was recorded by the Beatles.

Sentences like the ones above can be understood by people. But how can they be understood by computers?

Statements are built with syntax rules. The syntax of a language defines the rules for building the language statements. But how can syntax become semantic?

This is what the Semantic Web is all about. Describing things in a way that computers applications can understand it. The Semantic Web is not about links between web pages. The Semantic Web describes the **relationships between things** (like A is a part of B and Y is a member of Z) and the **properties of things** (like size, weight, age, and price).

47

Tim Berners-Lee, Weaving the Web, 1999: *"If HTML and the Web made all the online documents look like one huge book, RDF, schema, and inference languages will make all the data in the world look like one huge database."* [45]

THE RESOURCE DESCRIPTION FRAMEWORK (RDF)

The RDF (Resource Description Framework) is a **language** for describing information and resources on the web. Putting information into RDF files, makes it possible for computer programs ("web spiders") to search, discover, pick up, collect, analyze and process information from the web. The Semantic Web uses RDF to describe web resources.[46]

How can it be used?

If information about music, cars, tickets, etc. were stored in RDF files, intelligent web applications could collect information from many different sources, combine information, and present it to users in a meaningful way. Information like this:

- Car prices from different resellers
- Information about medicines
- Plane schedules
- Spare parts for the industry
- Information about books (price, pages, editor, year)
- Dates of events
- Computer updates

Suppose a semantic web system was built to administer the selling and buying of used cars over the Internet. The system would contain two main applications:
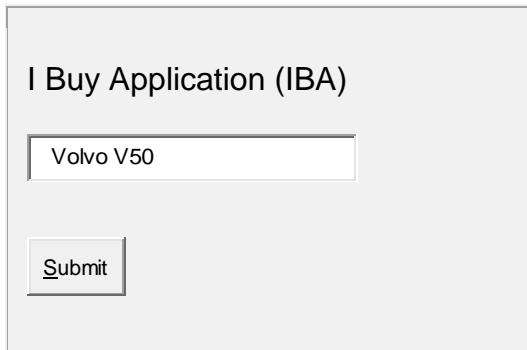
- One for people who wanted to buy a car.
- One for people who wanted to put up a car for sale.

Let's call the Internet applications for IBA (I Buy Application), and ISA (I Sell Application).

The I Buy Application (IBA)

People who want to buy a car could use an IBA application much like this:

I Buy Application (IBA)

Volvo V50
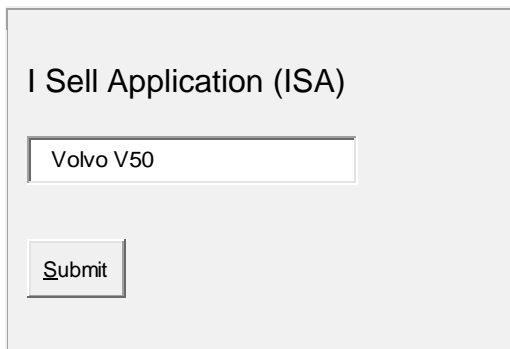
Submit

In a "real live" application we would be asked to identify ourself the first time we used it. Our ID would be stored in an RDF file. Our ID would identify us as a person with name, address, email, and ID number.

When we submitt the query, the application would return a list of cars for sale, and the list could be drilled down and sorted by year, price, location and availability. This information would be returned from a web spider continuously searching the web for RDF files.

The I Sell Application (ISA)

People who want to sell a car could use an ISA application much like this:

I Sell Application (ISA)

Volvo V50

Submit

When we submitt the form, the application would ask us for more information and store our ID and the information in an RDF file made available to the web. The RDF file would contain information like:

- Our ID: Name, address, email, ID number.
- Our selling item: type, model, picture, price, description.

Behind the scenes

Behind the scenes, the "ISA" application creates an RDF file with a lot of RDF pointers. It creates an RDF pointer to a file with information about us, an RDF pointer to information about Volvo and Volvo models, an RDF pointer to Volvo dealers and resellers, about parts, about prices, and much more. An RDF pointer is a pointer (actually an URL) to information about things (like a

knowledge database). The beauty about this is that we don't have to describe ourself, or the car model. The RDF application will sort it out for us.

Will it ever work?

RDF is data about data - or metadata. Often RDF files describe other RDF files. Will it ever be possible to link all these RDF files together and build a semantic web? The "ISA" and "IBA" applications above will have to be developed by someone. One day we will be able to collect information about almost everything on the web in a standardized RDF format.

SEMANTIC WEB AGENTS

The semantic web will not be searchable in free text. To search (or access) the semantic web, we will need some software to help us. To use the semantic web, we will need **"Semantic Web Agents"** or **"Semantic Web Services".** These "Agents" or "Services" will help us to find what we are looking for on the semantic web.

On the semantic web, we might want to look for information about:

- The cheapest airline tickets
- Styling that would fit my car
- Books, DVDs, and CDs
- Weather forecasts
- Time schedules and calendar events
- Stock prices and exchange rates [47]

While its critics have questioned its feasibility, proponents argue that applications in industry, biology and human sciences research have already proven the validity of the original concept. Scholars have explored the social potential of the semantic web in the business and health sectors, and for social networking.[48]

4.2.2. DATA MINING

Data mining is the process of **analyzing data from different perspectives** and summarizing it into useful information - information that can be used to increase revenue, cuts costs, or both. Data mining software is one of a number of analytical tools for analyzing data. It allows users to analyze data from many

different dimensions or angles, categorize it, and summarize the relationships identified. Technically, data mining is the process of finding correlations or patterns among dozens of fields in large relational databases.[49]

Origins and early applications

Picture 10: Data mining is the process of analyzing data from different perspectives and summarizing it into useful information (src: http://cfo.cio.bg/412_data_mining__procesat_na_izvlichane_na_znaniya_ot_danni)

As computer storage capacities increased during the 1980s, many companies began to store more transactional data. The resulting record collections, often called data warehouses, were too large to be analyzed with traditional statistical approaches. Several computer science conferences and workshops were held to consider how recent advances in the field of artificial intelligence (AI)—such as discoveries from expert systems, genetic algorithms, machine learning, and neural networks—could be adapted for knowledge discovery (the preferred term in the computer science community). The process led in 1995 to the First International Conference on Knowledge Discovery and Data Mining, held in

Montreal, and the launch in 1997 of the journal **Data Mining and Knowledge Discovery**. This was also the period when many early data-mining companies were formed and products were introduced.

One of the earliest successful applications of data mining, perhaps second only to marketing research, was **credit-card fraud detection**. By studying a consumer's purchasing behavior, a typical pattern usually becomes apparent; purchases made outside this pattern can then be flagged for later investigation or to deny a transaction. However, the wide variety of normal behaviors makes this challenging; no single distinction between normal and fraudulent behavior works for everyone or all the time. Every individual is likely to make some purchases that differ from the types he has made before, so relying on what is normal for a single individual is likely to give too many false alarms. One approach to improving reliability is first to group individuals that have similar purchasing patterns, since group models are less sensitive to minor anomalies. For example, a "frequent business travelers" group will likely have a pattern that includes unprecedented purchases in diverse locations, but members of this group might be flagged for other transactions, such as catalog purchases, that do not fit that group's profile. [50]

DATA MINING TOOLS

Organizations that wish to use data mining tools can purchase **mining programs** designed for existing software and hardware platforms, which can be integrated into new products and systems as they are brought online, or they can build their own custom mining solution. For instance, feeding the output of a data mining exercise into another computer system, such as a neural network, is quite common and can give the mined data more value. This is because the data mining tool gathers the data, while the second program (e.g., the neural network) makes decisions based on the data collected.

Different types of data mining tools are available in the marketplace, each with their own strengths and weaknesses. Internal auditors need to be aware of the different kinds of data mining tools available and recommend the purchase of a tool that matches the organization's current detective needs. This should be

considered as early as possible in the project's lifecycle, perhaps even in the feasibility study.

Most data mining tools can be classified into one of **three categories**: traditional data mining tools, dashboards, and text-mining tools. Below is a description of each:

1. **Traditional Data Mining Tools:** Traditional data mining programs help companies establish data patterns and trends by using a number of complex algorithms and techniques. Some of these tools are installed on the desktop to monitor the data and highlight trends and others capture information residing outside a database. The majority are available in both Windows and UNIX versions, although some specialize in one operating system only. In addition, while some may concentrate on one database type, most will be able to handle any data using online analytical processing or a similar technology.

2. **Dashboards:** Installed in computers to monitor information in a database, dashboards reflect data changes and updates onscreen — often in the form of a chart or table — enabling the user to see how the business is performing. Historical data also can be referenced, enabling the user to see where things have changed (e.g., increase in sales from the same period last year). This functionality makes dashboards easy to use and particularly appealing to managers who wish to have an overview of the company's performance.

3. **Text-mining Tools:** The third type of data mining tool sometimes is called a text-mining tool because of its ability to mine data from different kinds of text — from Microsoft Word and Acrobat PDF documents to simple text files, for example. These tools scan content and convert the selected data into a format that is compatible with the tool's database, thus providing users with an easy and convenient way of accessing data without the need to open different applications. Scanned content can be unstructured (i.e., information is scattered almost randomly across the document, including e-mails, Internet pages, audio and video data) or structured (i.e., the data's form and purpose is known, such as content

found in a database). Capturing these inputs can provide organizations with a wealth of information that can be mined to discover trends, concepts, and attitudes.

Besides these tools, other applications and programs may be used for data mining purposes. For instance, audit interrogation tools can be used to highlight fraud, data anomalies, and patterns. An example of this has been published by the United Kingdom's Treasury office in the 2002–2003 ***Fraud Report: Anti-fraud Advice and Guidance***, which discusses how to discover fraud using an audit interrogation tool. Additional examples of using audit interrogation tools to identify fraud are found in David G. Coderre's 1999 book, *Fraud Detection.*

In addition, internal auditors can use spreadsheets to undertake simple data mining exercises or to produce summary tables. Some of the desktop, notebook, and server computers that run operating systems such as Windows, Linux, and Macintosh can be imported directly into Microsoft Excel. Using pivotal tables in the spreadsheet, auditors can review complex data in a simplified format and drill down where necessary to find the underlining assumptions or information.

When evaluating data mining strategies, companies may decide to acquire several tools for specific purposes, rather than purchasing one tool that meets all needs. Although acquiring several tools is not a mainstream approach, a company may choose to do so if, for example, it installs a dashboard to keep managers informed on business matters, a full data-mining suite to capture and build data for its marketing and sales arms, and an interrogation tool so auditors can identify fraud activity.[51]

DATA-MINING TECHNIQUES

There are many types of data mining, typically divided by the kind of information (attributes) known and the type of knowledge sought from the data-mining model.

1. **Predictive modeling:** Predictive modeling is used when the goal is to estimate the value of a particular target attribute and there exist sample training data for which values of that attribute are known. An example is

classification, which takes a set of data already divided into predefined groups and searches for patterns in the data that differentiate those groups. These discovered patterns then can be used to classify other data where the right group designation for the target attribute is unknown (though other attributes may be known). For instance, a manufacturer could develop a predictive model that distinguishes parts that fail under extreme heat, extreme cold or other conditions based on their manufacturing environment, and this model may then be used to determine appropriate applications for each part. Another technique employed in predictive modeling is regression analysis, which can be used when the target attribute is a numeric value and the goal is to predict that value for new data.

2. **Descriptive modeling:** Descriptive modeling, or clustering, also divides data into groups. With clustering, however, the proper groups are not known in advance; the patterns discovered by analyzing the data are used to determine the groups. For example, an advertiser could analyze a general population in order to classify potential customers into different clusters and then develop separate advertising campaigns targeted to each group. Fraud detection also makes use of clustering to identify groups of individuals with similar purchasing patterns.[52]

Using data mining to understand and extrapolate data and information can reduce the chances of fraud, improve audit reactions to potential business changes, and ensure that risks are managed in a more timely and proactive fashion. Auditors also can use data mining tools to model "what-if" situations and demonstrate real and probable effects to management, such as combining real-world and business information to show the effects of a security breach and the impact of losing a key customer.

CHAPTER 5

WEB ANALYTICS 2.0

Web Analytics 2.0 is:

1.The analysis of qualitative and quantitative data from your website and the competition,

2.To drive a continual improvement of the online experience of your customers and prospects,

3.Which translates into your desired outcomes (online and offline)

Modern business intelligence and Web analytics tools give us the ability to collect a staggering amount of data. The goal of today's analytics is not just to collect the data and store it away in meaningless charts and graphs, or worse yet, just store it in the digital vaults, but rather we want to take that raw data, organize it into something that we can use, something actionable, something that has importance to us, and meaning to us as people.

Web analytics is the study of online behavior in order to improve it. Web analytics software is like an x-ray machine. In this case, **the patient is our Web site**, and the x-ray machine is **Google Analytics**. The tool will identify and display exactly what's going on under the skin of our Web site, much like this x-ray will detect and display the broken bones. However, it won't end your pain, and it won't ultimately fix our problem. For that, we're going to need someone who can actually read and interpret the x-ray, and perform the analysis necessary to actually take action, and improve the situation.

Web analytics is a process, and set it and forget it has no place here. We first perform the measurement, we apply analysis and learn from what we see, and then we take action.

5.1. THE ANATOMY OF A WEBSITE VISIT

The first step is to attract traffic. (AdWords, Microsoft AdCenter, Ask.com, Facebook ads). We mistakenly believe that if we get enough visitors to our site, somehow that will be good enough, but just dropping them off on the front door of our site and hoping for the best isn't good enough. We need them to actually take that next step.

In order to analyze which sources and types of traffic are valuable, we need to track what those visitors are doing when they're on the site; what content works, how are they using the site, and ultimately figure out how to segment them to understand why they're doing what they're doing.

5.2. GOOGLE ANALYTICS[53]

Google Analytics helps us generate detailed statistics about a websites traffic and traffic sources and measures conversions and sales. It is the most widely used website statistics service. It is easy to use. It has powerful possibilities and it is free of charge.

5.2.1. FIRST STEP: CREATE A GOOGLE ANALYTICS ACCOUNT

If you don't have already a Google account then you can create one and start using Google analytics. The procedure is quite straightforward.

Pictures 11-12: Create a Google account.

5.2.2. SECOND STEP: GETTING THE CODE

After you have created a new account you have to add your website as your property so you can receive the track code that is needed.

Pictures 13-14: Get a track code for the site.

5.2.3. THIRD STEP: PLACING THE CODE ON YOUR SITE

There are two methods of adding the Google analytics code. The first method is by directly placing the code in your website template and the second one is by using Google tag manager. Add the track code provided in head section of every page you want to track. The second method is more sophisticated and it includes Google's new tool Tag manager.
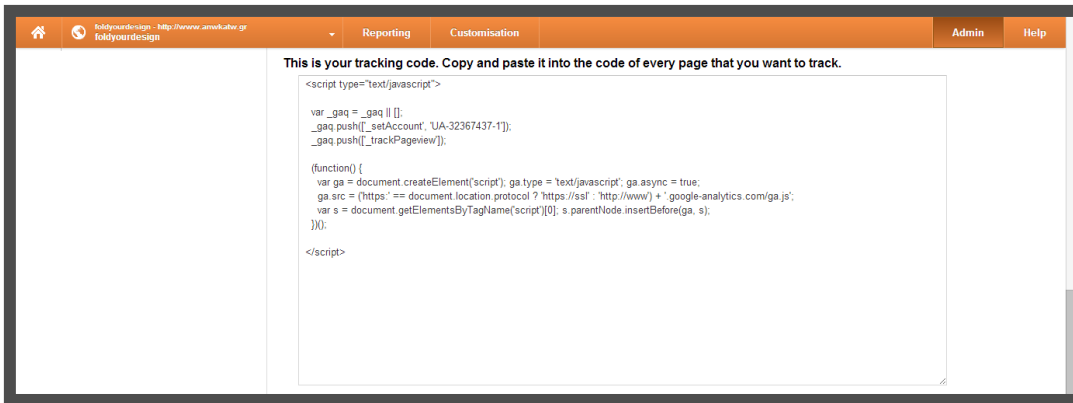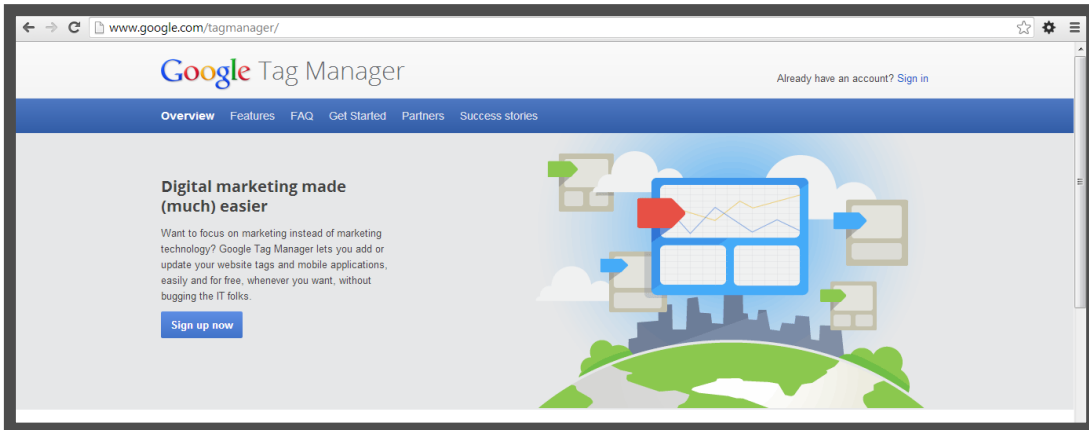
Pictures 15-17: Different ways to integrate the code on the website.

5.2.4. FOURTH STEP: GETTING CLEAN DATA

In order to gain clean data that won't include visits from your IP you have to exclude your IP by adding a filter. Click the admin button, select filters and add your IP address. By doing so any data coming from your computer would not be included.
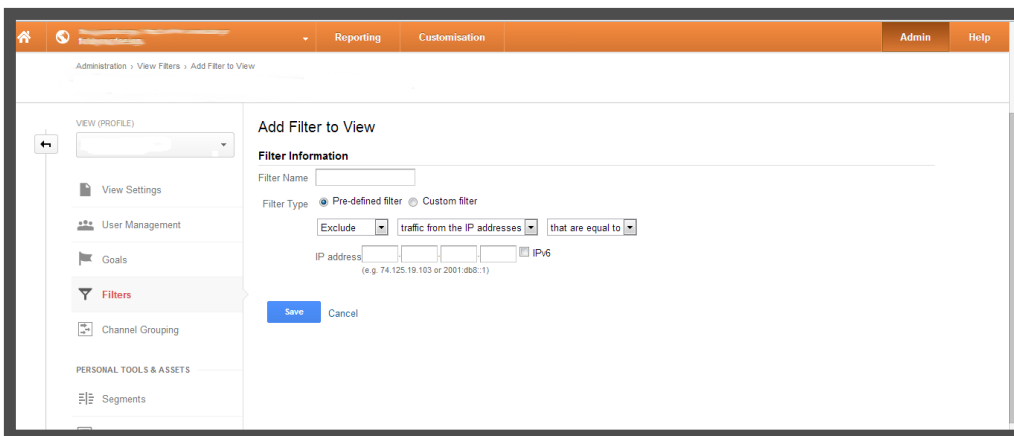
Picture 18: Adding filters for reliable results.

5.2.5. FIFTH STEP: DEFINING GOALS

Defining goals is very important. Goals are what will allow us to evaluate quality traffic from poor performing traffic. We simply have to ask ourselves, why do we have a Web site? What is the purpose of our site, and what do we want from visitors to do when they visit? Goals depend on the type of our website.
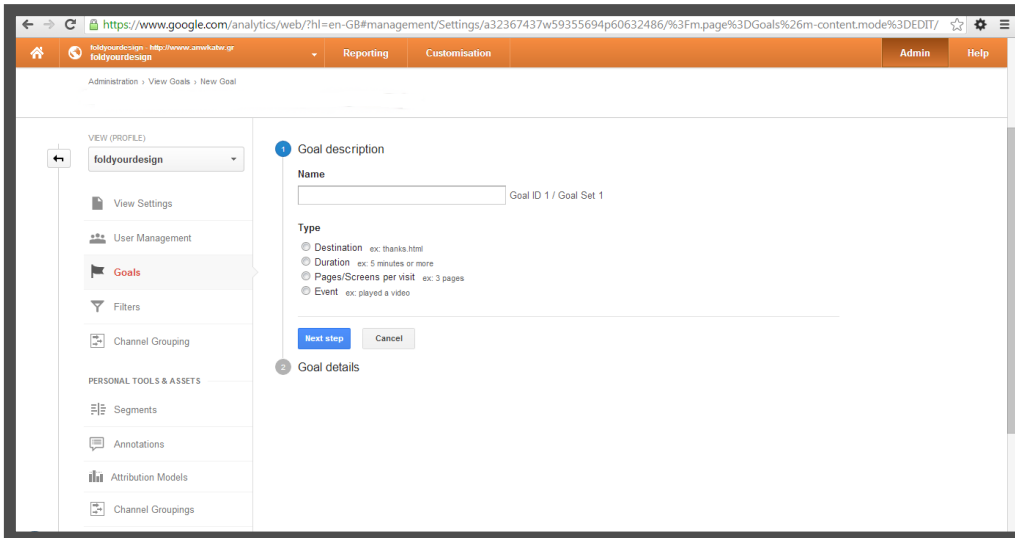
Picture 19: Define the goals.

The **Valo project** is not for commercial use. The main goal of Valo is to be widely known as possible to potential users. The website should promote the aims and objectives of the project. Why is the Valo important? What motivation can we give to the visitor so that he takes the next step? Our efforts should target on this questions and setting goals in Google analytics will help us note if the visitors receive the messages we want to pass. And if they don't, what we could do so they can.

5.2.6. SIXTH STEP: ANALYZE CONTENT PERFORMANCE

Quality content is the best way to attract visitors. Google analytics offers us the option to track which content performs well according to the goals we set on the previous step, and which content isn't. From here we can improve the content we want and see how the change will imply later on.
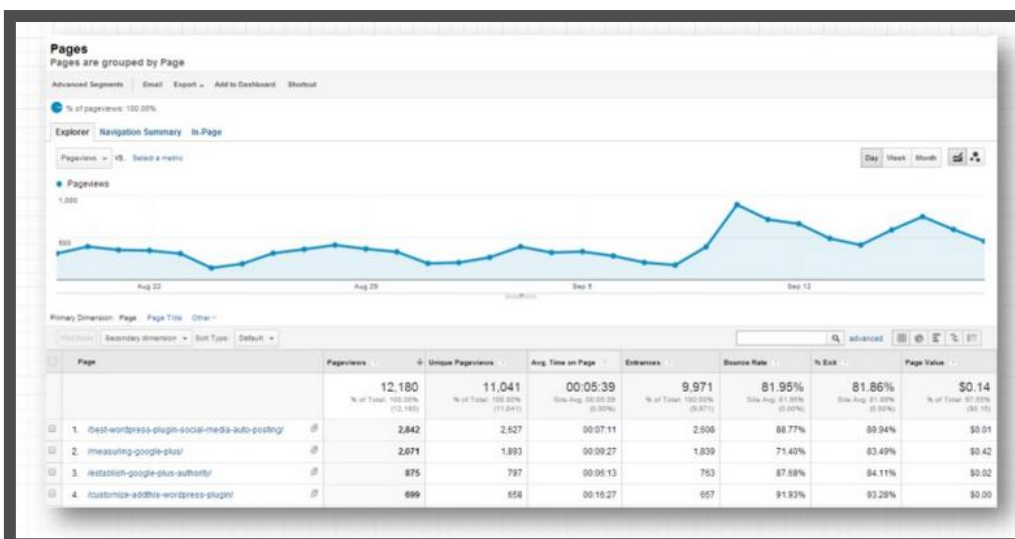
Picture 20: Analysis of content can help its improvement.

5.2.7. SEVENTH STEP: TRACK SEO RESULTS IN GOOGLE ANALYTICS

SEO is an internet marketing strategy that considers how search engines work, what people search for, the actual search terms or keywords typed into search engines and which search engines are preferred by their targeted audience. Optimizing a website may involve editing its content, HTML and associated coding to both increase its relevance to specific keywords and to remove barriers to the indexing activities of search engines. Google analytics gives us the ability to monitor if our SEO strategy is affective or we need to redesign it.
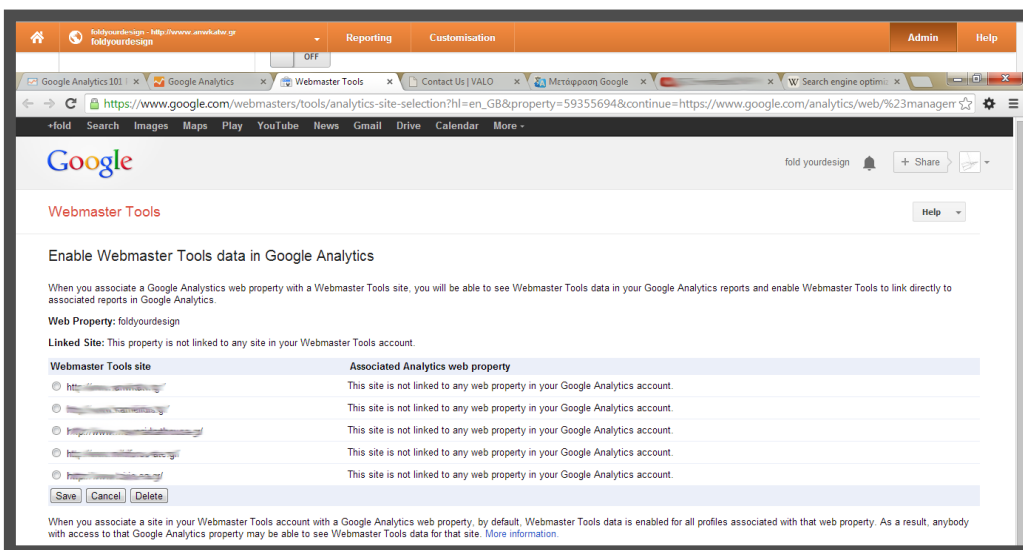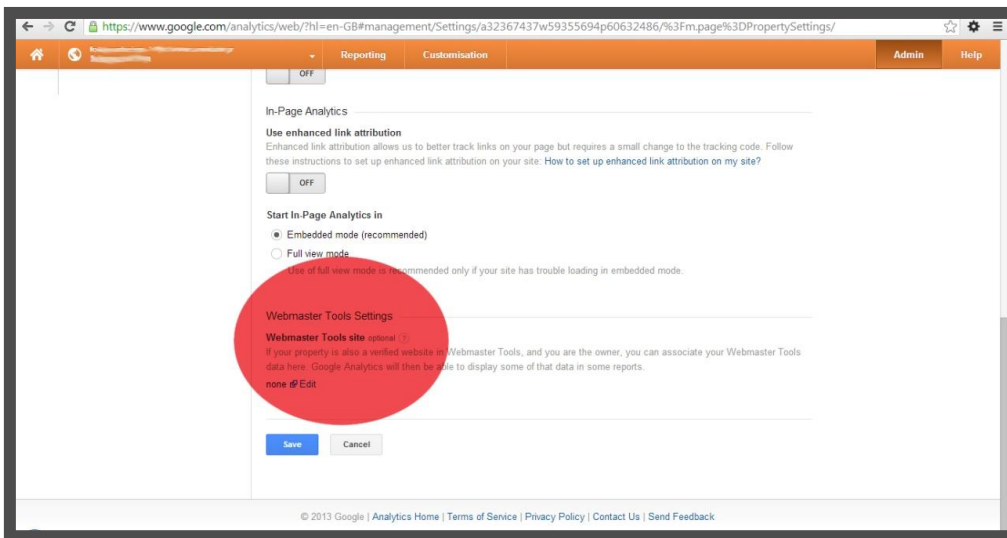
Pictures 21-22: Enable webmaster tools to track SEO on the site.

5.2.8. EIGHTH STEP: TRACK SOCIAL MEDIA ACTIVITY ON OUR SITE [54]

Social media are a perfect way to attract traffic at your site. Google analytics identify the social media sites that send the most visitors back to your website to see which one needs more attention. First we need to **discover what social media sites send the most traffic** to our website.

To do that, we need to go the Traffic Sources section, select Sources and All Traffic.

Here we are able to see a list with all of the websites that send traffic back to our site. Right now, we will need to **identify which are social media websites** and **keep them in mind**.
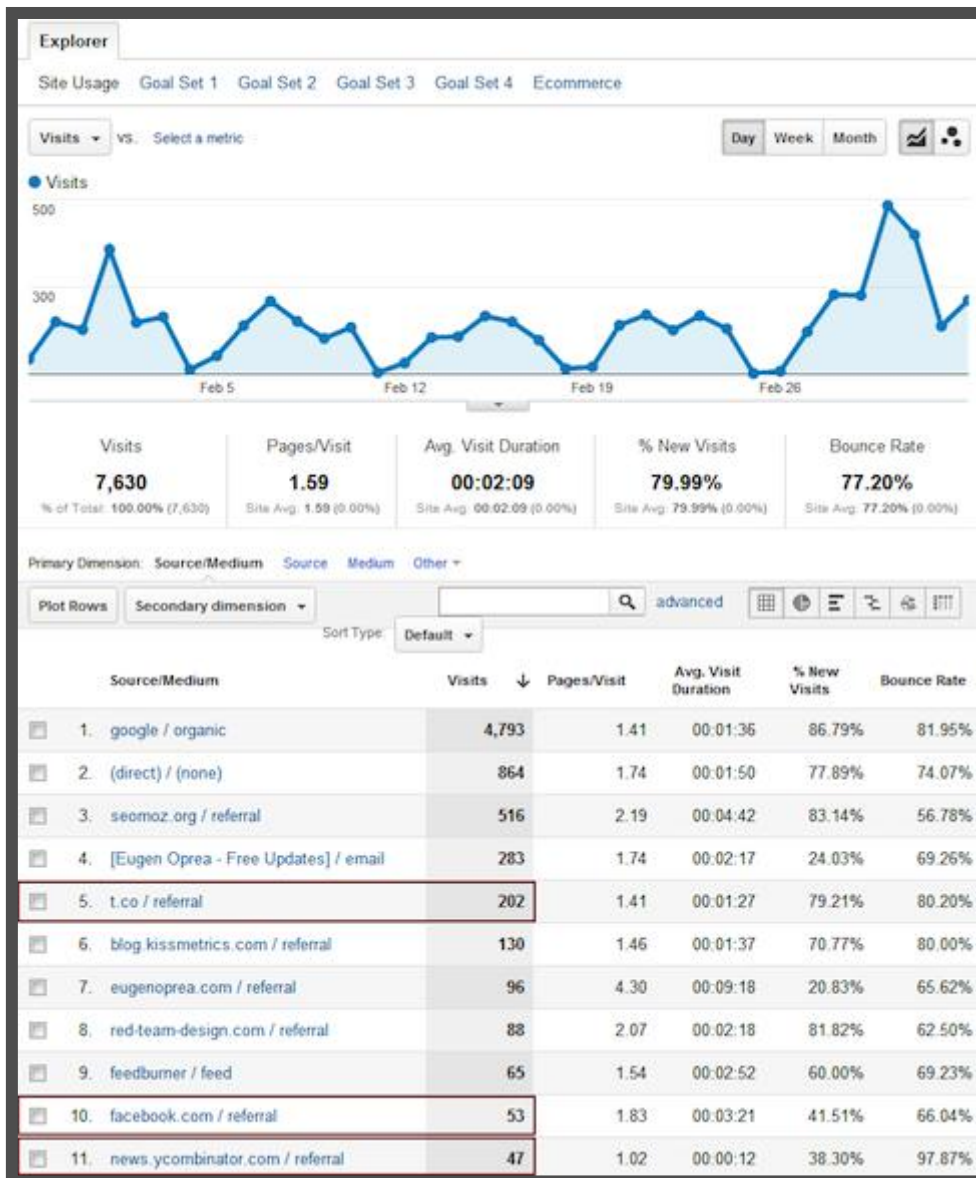
Picture 23: Identify the main social media sites that send traffic.

CREATE ADVANCED SEGMENTS

Once you have identified your main social media traffic sources, you can create Advanced Segments for those websites and **segment the traffic to individually analyze your visitors**.

You can also set up multiple Advanced Segments and compare them to see the difference among them.

Twitter Traffic Segment

We can create an Advanced Segment for Twitter to see how it compares with Facebook and Google+.

To do this, **we click on Advanced Segments from any Google Analytics report** and click + New Custom Segment.

Picture 24: Create advanced custom segment.

We create Advanced Segments to individually analyze our visitors by traffic source. Then we add a name for our segment and start to include as sources, the following containing terms that might send traffic to our website:

- twitter.com
- t.co
- hootsuite
- tweetdeck

- bit.ly

There are multiple filters that should be added using an OR statement because different Twitter clients might send traffic that will not get tagged as being from twitter.com or t.co.

While adding these filters, we see that if we have traffic that matches, Google Analytics will insert the filters using an autocomplete function.

This way we can **be sure that all the filters we apply actually match visits**.
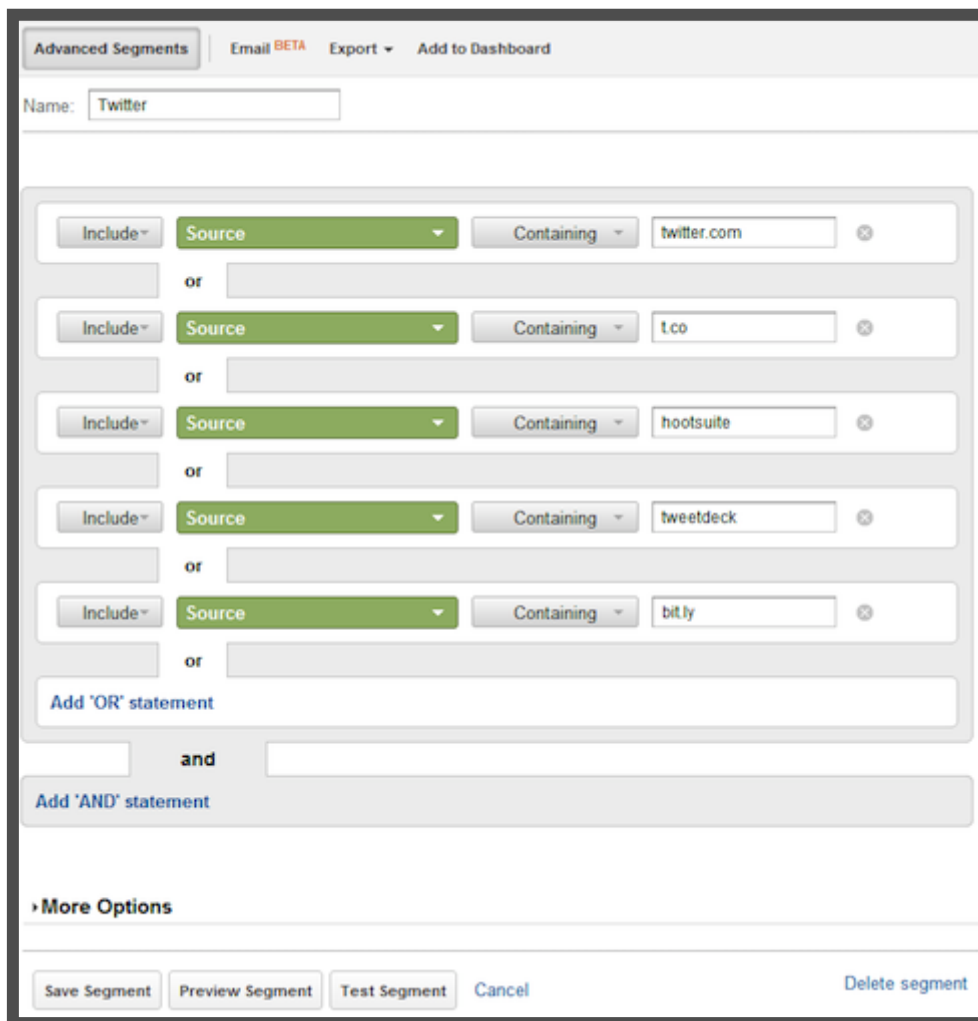
Picture 25: Include different URLs that drive traffic to the site.
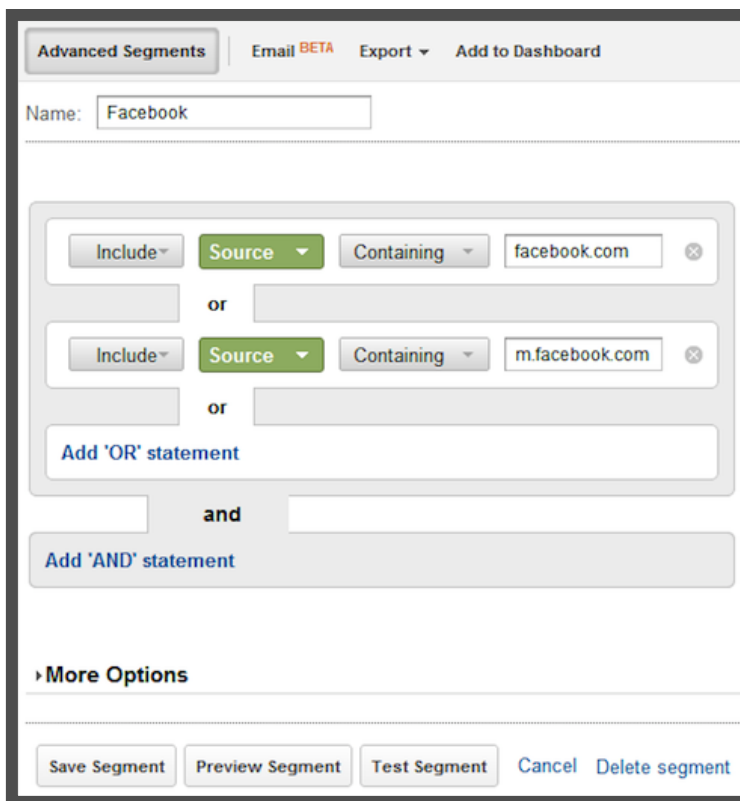
Create a Twitter traffic segment to see how the inbound traffic from Twitter compares with other social media sites. Once we add all our filters, **press the Test Segment button** to see if everything is set up correctly. If so, we save our segment.

Facebook Traffic Segment

Next on the list is the Facebook segment, which can be created exactly as we did for Twitter—just change the filters to:

- facebook.com
- m.facebook.com

Create a Facebook traffic segment and include as a source both facebook.com and the mobile version m.facebook.com.

Picture 26: Different URLs from Facebook that drive traffic to the site.

Google+ Traffic

The Google+ segment is similar to Twitter and Facebook, but simpler. All we have to do is just filter:

- plus.url.google.com

Create a Google+ traffic segment to analyze only the traffic that comes from Google+.

SOCIAL MEDIA TRAFFIC

We can **create a more comprehensive segment that analyzes traffic** from more than one social media outlet. We can use this type of segment to **include the traffic from StumbleUpon, Digg, Delicious, LinkedIn and any other social media site**. As an example, below are some of the sites we can include in this segment using the OR statement:

- twitter.com
- t.co
- hootsuite
- tweetdeck
- bit.ly
- facebook.com
- m.facebook.com
- plus.url.google.com
- linkedin
- youtube

- reddit

- digg

- delicious

- stumbleupon

- ycombinator

- flickr

- myspace

- popurls

A simpler version of this segment would be to select as a condition **Matching RegExp**, which will use a regular expression to detect the traffic that matches our condition.

The advantage of this will be the fact that we will not need to type in 10-20 conditions for this segment, but just one.

To create this segment, we select *Matching RegExp* as condition and then type in brackets "()" the social media sites that send traffic, separated by a vertical bar "|", just like the code below:

(twitter|t.co|hootsuite|tweetdeck|bit.ly|facebook|plus.url.google|linkedin|youtube| reddit|digg|delicious|stumbleupon|ycombinator|flickr|myspace|popurls)

We need to **make sure that there are no spaces in this code**.
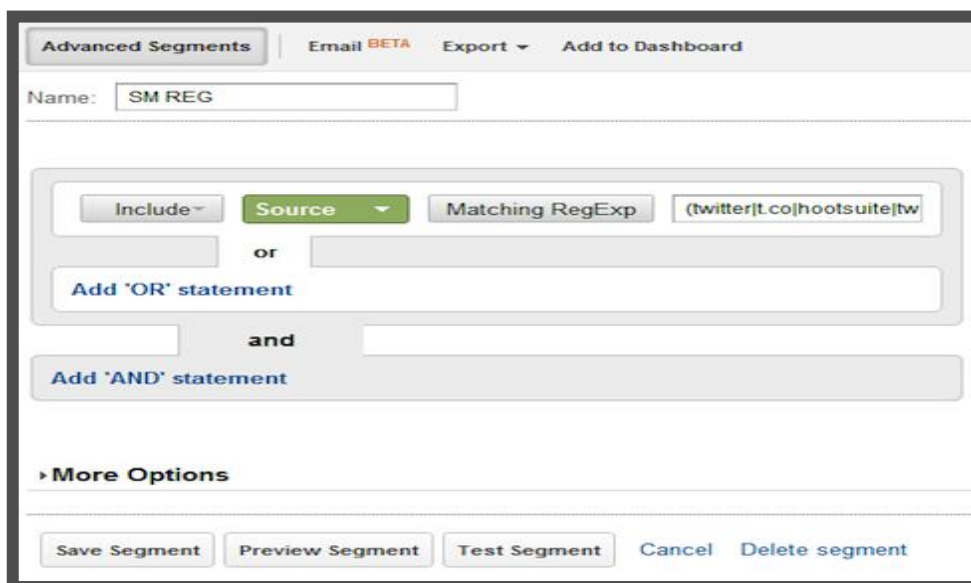
Picture 28: Use the Matching RegExp to decrease the ORs of the segment.

Use a Regular Expression to create only one condition which includes all the social media sites from where you might get traffic. We can also include other sites that send traffic to our site.

UNDERSTANDING SOCIAL MEDIA TRAFFIC

Now we have four powerful segments that will help us get more insights about our visitors. We can use the first three to see how they compare to each other and if there are any big differences among them.

We can use the fourth to see how visitors who come from social media sites behave on your own site and how they convert.

We should have a look at the **Audience reports** to determine their behavior, how engaged they are with our site (how much time they spend reading our content), how frequently they come to our site or the ratio of new visitors to returning visitors.

The Content section is the one that we should check to see the pages our social media peers visit on our site, our site speed for their connection or what they search for on our website.

For example, we can see from the screenshot below that the visitors coming from Twitter are less engaged with the content of the website, because the majority spend less than 10 seconds on the website.
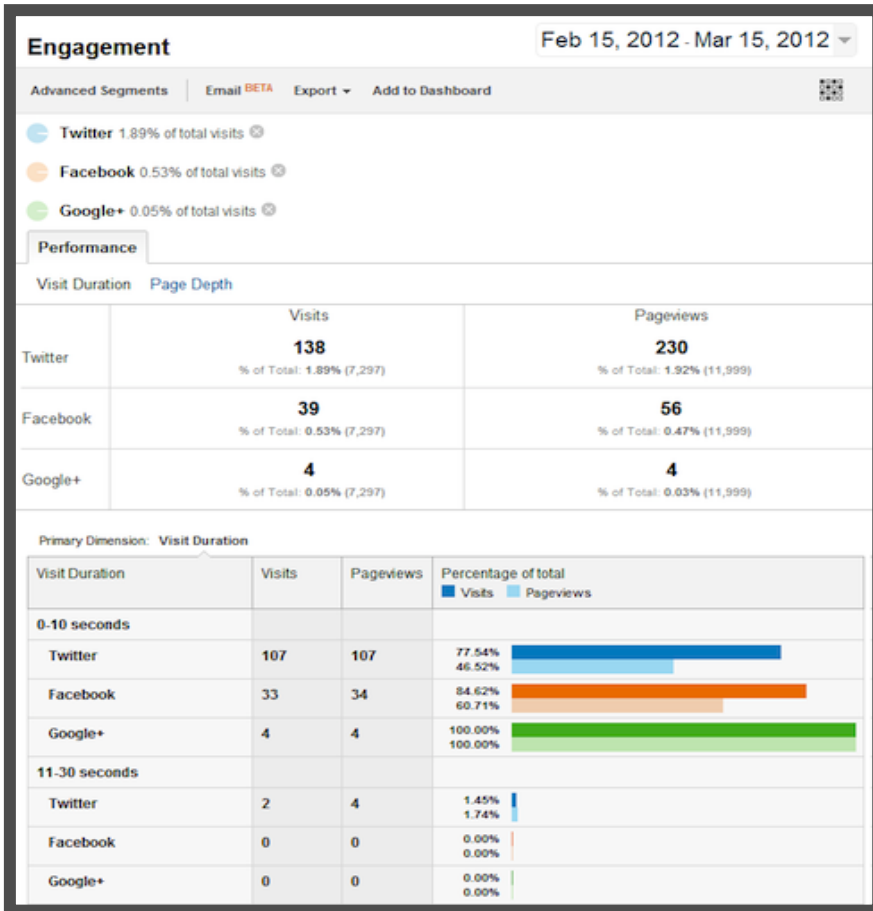
Picture 29: Use of Advanced Segments show where valuable visitors come from.

We use **Advanced Segments** to identify which social media sites send us valuable visitors.

We can use the above segment to compare the traffic from multiple social media outlets and see where we should invest more time, which one sends us more engaged visitors, visitors that convert and much more.

A blog for the Valo project

A blog can be a powerful addition to online marketing .By establishing clear goals and a strategy, creating quality content, and using available technologies a blog can become the face of a project to the online community.

VALO project already had a website. The blog can lead more viewers to the website and increase the footprint of the project on the web. A blog works in addition and if planned properly a blogging strategy can have a positive impact on the business website as a whole.

The first and most important step in creating a blog, is to define clear goals. First, setting targets for everyone who works with the blog. Second, use those goals to measure success.

The Valo project is not for commercial use. The main goal of Valo   is to be widely known as possible to potential users. The website should promote the aims and objectives of the project. Why is the Valo important? What motivation can we give to the visitor so that he takes the next step? Efforts should target on this questions and setting goals will help note if the visitors receive the messages we want to pass. And if they don't, what should happen so they could.

The first decision was to choose the best suitable platform for our blog. Among a plethora of choices and after narrowing down the list by counting what we need , blogger.com was the platform of choice.

The next step was to implement the theory into the site. For starters we had to consider what social media services we want to use and integrate with. A Facebook page is a sound investment for any company that targets the average viewer, and Facebook pages can also easily be integrated with blogs. Twitter is a great tool to gather information and interact with the average viewer, but it requires a lot of work to maintain a popular Twitter profile. However because of their popularity **Facebook** and **Twitter** were the must choice for our project. The third social media we selected was **LinkedIn**. LinkedIn is not as popular as Twitter or Facebook but the nature of it, is suitable for our purposes and that is because it focus on professional matters.

Next we had to benefit from integrating with **common web services**. These services include monitoring and analytics. Together, they'll ensure a consistent and hopefully trouble free experience for the administrator and the visitor.

To achieve goals the most useful tactic was to embed web analytics 2.0 tools into our blog.

Web Analytics 2.0 is:

- The analysis of qualitative and quantitative data from your website and the competition,

- To drive a continual improvement of the online experience of your customers and prospects,

- Which translates into your desired outcomes (online and offline)

Two key services of Web analytics 2.0 are **Google Webmasters** and **Bing Webmaster tools**. These services, provided by the two largest search engines on the web monitor your site for activity. They ensure that our content is indexed properly so people can find it in search results and also alerts us if and when something goes wrong. Both services are free and easy to set up and the information in return is invaluable for improving our site.

Google analytics is one of the best solutions for site monitoring. Google Analytics, runs statistics on visitors and how they interact with our site. Google analytics also provides custom reporting, advanced segmentation, advanced rich media tracking, auto-integration with search engine PPC campaigns, advanced mathematical intelligence, algorithmic data sorting options, complete ecommerce tracking, super scalable sophisticated data capture methods such as custom variables, open free and full API access to the data, loads of developer applications for data visualizations, data transformations, external data integrations and many more. For the size of a blog a few possibilities that Google analytics offers were necessary.

Semantic Web aims at converting the current web, dominated by unstructured and semi-structured documents into a "web of data". **Tim Berners-Lee** has described the semantic web as a component of "Web 3.0". Web 3.0, is that computers will be able to understand the content and the information they contain. Rather than the data just being a document, it will be put within context helping the computer to relate pieces of information and present them accordingly.

Semantic technologies, and in the first place linked data, promise further automation by turning the Web of information into a Web of interconnected and machine processable data sources. Although these technologies have reached an acceptable mature state, they are not broadly used in commercial and public Web applications

Semantic web tools can be used to make our blog more functional.

Zemanta is a browser plug-in that analyzes emails and blog posts that you write by understanding the language used through semantic search to recommend relevant tags, links and related articles.

Also One click Annotation allows users to create semantically enhanced content and compile content with drag and drop, to publish html, blog, wiki, and feeds in various formats such as pdf, doc, odt, and to provide a reader that highlights relevant information and allows navigation.

However most semantic web tools are not user-friendly and easy-to-use for creating and publishing semantic contents. For that reason the semantic web tool of choice was the very popular and very easy to non-expert users Zemanta tool.

CONCLUSION

The growth of the internet is rapid. In order for someone to keep up with this growth, taking advantage of the most recent technology is the best thing to do. A website created for any reason should use this technology to improve its performance and achieve its goals. After all the majority desire is to evolve the web and by implementing the newest technologies is the best way to contribute.

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[23] http://www.linkedin.com/in/doreenmoran
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