BRUCE CLAY, INC
Global Internet Marketing Solutions

Web Analytics

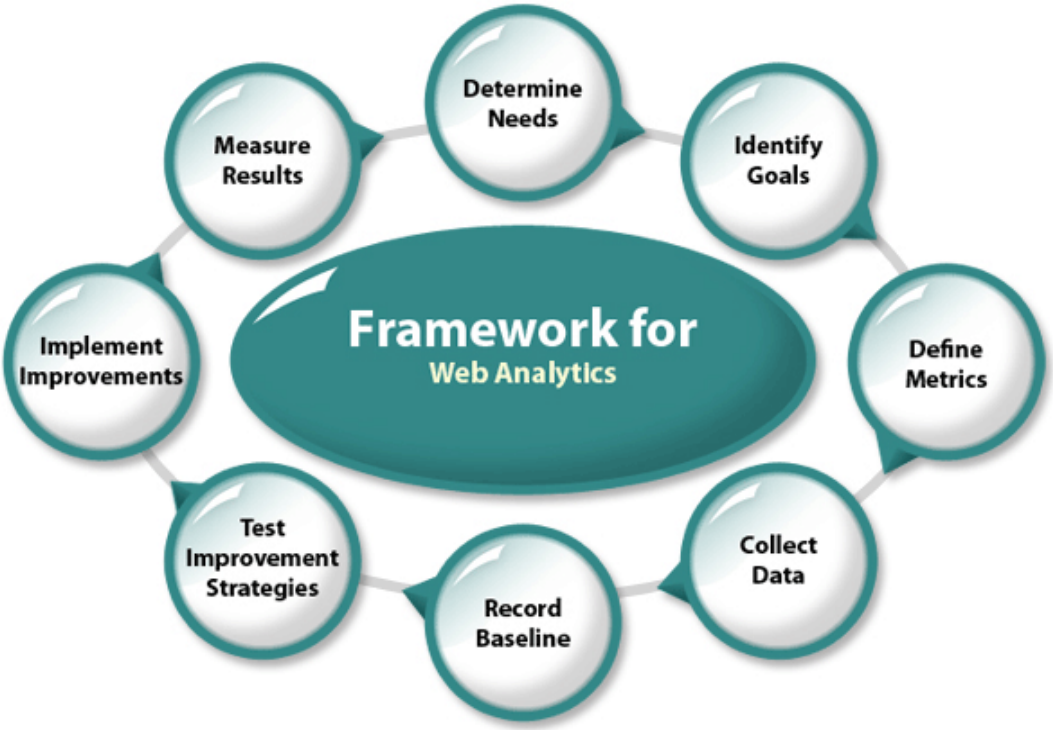
What is web analytics? The Web Analytics Association defines it as "the objective tracking, collection, measurement, reporting and analysis of quantitative Internet data to optimize websites and marketing initiatives."

Remember the days when you just had to wonder which half of your advertising was wasted because there was no way to fathom what worked and what didn't? Not any more! With web analytics, you can understand your visitors, traffic patterns, marketing campaigns, conversion dynamics and more. This tool can make it easy to fine tune your website and campaign performance to maximize your return on investment (ROI).

Step 0: Introduction to Analytics

Marketers want to know if their websites are attracting visitors and whether or not their investment is paying off. With web analytics, you can identify website trends. You'll also understand how visitors interact with your website. You can identify the navigational chokepoints that prevent visitors from completing their conversion goals. By segmenting visitors, you can also find out how profitable your search marketing campaigns are across search engines and/or search strategies like Search Engine Optimization, pay per click and Pay-For-Calls advertising.

Learn exactly where your best customers come from and which markets are the most profitable. PPC and SEO analytics can show you how your site operates and how your visitors interact with it.



Continuous improvement should be a fundamental part of your web analytics goals. It's not enough to just measure. You have to distribute the results of measurement to all key personnel, especially those in sales

and marketing, to continuously improve your website and marketing campaigns.

You should also recognize there are obstacles to implementing the actions suggested by your SEO and PPC analytics reports. Sometimes it is not crystal clear just what actions should be taken. Other times, management fails to share the reports with all the right people. In the end, many companies do not take action based on their data because of the uncertainty and/or a lack of resources.

This can be avoided by establishing a Continuous Improvement Program based on your Key Performance Indicators. Once your CIP is established and understood, changes to your website will be made based on principles guaranteed to produce expected gains - and the gains will be reflected in your bottom line.

In order to understand what web analytics can do for you and to get a handle on what to measure, why, and what these metrics mean to your business, it helps to apply the Customer Life Cycle framework.

Need More of the Basics? - Key Performance Indicators, Customer Life Cycle Framework

Step 1: Determine Needs

Most business websites offer visitors a number of activities to engage in that will satisfy the visitor's goals and contribute to the businesses' bottom line. These activities usually consist of a multi-step process by which visitors can fulfill their intentions. It is important to make these processes as user-friendly as possible for customer satisfaction and for business success.

The most important of these processes is that which culminates in a purchase through a sales path. A typical sales path has three or four steps, including a shopping cart. Unfortunately, the road to "ka-ching" is fraught with abandonment. Shopping cart abandonment rates still hover between 50 and 60 percent. This means that more than half of the online shopping carts are abandoned. DoubleClick estimates that shopping cart abandonment results in $4.51 of lost revenue for every $1.00 of revenue made from sales.

Analytics process analysis tools enable the measurement of loss between any two steps in your sales path, also providing the total loss from start to finish. Knowing which steps have the highest abandonment rate will identify areas for improvement. Loss reduction at any step within your sales path should have a positive effect on your overall conversion rate.

Step 2: Identify Goals

The next step is to identify the key activities and actions that you want to improve, quantifying your objectives. Your objectives will depend on the nature of your business website. For instance, you might state an objective to "increase website widget sales by 10 percent in January by reducing the steps in the conversion funnel from four to three." Note that it is important to define a specific change and set expected goals.

Four Commercial Website Archetypes

There is consensus in the web analytics community that there are four classifications for commercial websites: e-commerce sites, content sites, lead generation sites and self-service sites. Below are some generic objectives for the four basic commercial websites. This information can be helpful in defining your own business objectives.

E-commerce Sites - The objective is to increase sales and decrease marketing expenses. Basic measures include sales, returns and allowances, sales per visitor, cost per visitor and conversion rate. Advanced measures include inventory mix, trend reporting, satisfaction, RFM (recency, frequency, monetary analysis) and other predictive modeling techniques.

Content Sites - The objective is to increase readership- level of interest and time spent on the site (stickiness). Basic measures include visit length, page views, and number of subscriptions and cancelled subscriptions.

Lead-Generation Sites - The objective is to increase and segment lead generation. Basic measures include white paper downloads, time spent on the site, newsletter opt-ins, reject rates on contact pages and leads-to-close ratio.

Self-Service Sites - The objective is to increase customer satisfaction and decrease customer support inquiries. Basic measures include a decrease in visitor length or fewer calls to a call center, as these are measures of customer satisfaction.

With clearly defined objectives and a good analytics tool, the job of measurement becomes a reality. Your objectives state what you want to do with your website or your marketing campaigns. Keep in mind that your objectives must be quantified:

- 100 qualified leads per month
- Gross product sales of $1 million in the next quarter
- 50 newsletter subscriptions per month
- 100 website registrations per month

Once defined, objectives should be broken down into small steps, prioritized, and made accountable.

Step 3: Define Metrics

"With so much data available from Web servers, what's the most important thing to measure? The most important metric is that which helps improve your site." … Jim Sterne, "Web Metrics."

Given that you can measure and analyze a vast array of website data, it is important to know what to measure to improve your business results. This suggests bottom-line variables such as costs and revenues. What business processes impact costs and revenues? Once you identify these, you can manipulate them to achieve higher profits. Below are some questions you might ask to identify important metrics for analysis.

- Are you attracting unique visitors to your site?
- Are visitors spending time on your site, and if so, where?
- How well do you convert visitors on your site?
- Does your site navigation help visitors accomplish their intended actions?
- What behavior shows that a visitor is ready to buy?
- How does the behavior of customer segments differ?
- How can profiling help you cross-sell and up-sell?
- What is your churn rate?
- How do you describe your best customers?
- How do you measure loyalty

Once you've identified your most important processes leading to conversion, you must set clear, quantifiable goals for improvement.

Need Metrics Help? - Metrics for Measuring Reach, Measuring Retention, Measuring Conversion, Using a Conversion Funnel

Step 4: Collect Data

Measurement Tools

The basic unit used for website accounting is the log file. It captures the micro details of every user interaction. Personal information is not included in log file analysis. In the beginning, log file analysis was the only tool available for web measurement and analysis. More recently, JavaScript page tagging, which is used by the application service provider (ASP) hosted solution model, is rapidly becoming popular.

Data Collection

There are two types of web analytics tools for collecting data - those using web server log data and those using page tagging with JavaScript.

Page tagging requires the inclusion of one line of JavaScript code on each page that refers to a JavaScript file on your website. It allows all specified information to be tracked with minimal effort. Additionally, data from distinct websites can easily be aggregated to demonstrate cross-side traffic and page flows between sites. We have a wealth of information on page tags and the advantages and disadvantages. For more information, please visit our page tag section.

When page tags are used as the data source, the visitor's web browser enables the data to be collected. This type of data collection is called "client-side" or "front-end." One reason for the growing popularity of the ASP model of web analytics is that the barrier to entry is lower than that for a software solution. A hosted solution does not have product development and shipping costs; the product is delivered electronically. Secondly, this outsourced solution allows companies to "pay as they go," without the expense of software licensing purchase, hardware, network space and human resources for management and maintenance.

Client-side solutions work thusly:

- Sign up for the service, pay up-front installation or set-up fees and monthly fees based on traffic volume and website transactions.
- Vendor provides a set of JavaScript tags designed to detect information about your visitors. The tags must be added to all website pages you wish to track.
- Add the code to your site, setting code variables as specified by your vendor.
- When visitors land on your site, they download your web pages, which include a page tag.
- When your pages are downloaded in your visitor's browser, the page tags are activated, and the data is sent to the vendor's data center by means of an image request for a small image or file; a long query string appends the image request.

This component is sometimes referred to as a web bug.

- The data center receives the image request and parses the query string into the vendor's specific data model.
- When the image is sent back to the client, the transaction is complete.
- At this point, you can log into a secure online interface to view the data in pre-defined reports, or receive customized reports by email.

Need Help Collecting Data? - Page Tags, Disadvantages of Page Tags, Cookies, Web Files

Step 5: Record Data

You must start with a baseline from which to measure the expected changes. Following the example we set above (in Step 2: "increase website widget sales by 10 percent in January by reducing the steps in the conversion funnel from four to three"), you would start by recording website widget sales in December. You should also import this information into a Key Performance Indicators worksheet so everyone involved will be informed and can monitor the effect of website changes.

Since there is "more than one way to skin a cat," and "if anything can go wrong, it will," you need to assign a priority to each component and a potential solution for efficient resource allocation.

With respect to the defined objective of "increasing widget sales by 10 percent" in our example, it is reasonable to suspect that there are two other possible site changes that might increase widget conversion rates (in addition to the number of steps in the conversion process). We might have a poor call-to-action at the final conversion step, or our registration requirement might impede conversions.

It is important to break a perceived problem down into many smaller actions, testing them one at a time in order of their likelihood of success. This creates micro-hypotheses that can be easily tested.

Step 6: Test Improvement Strategies

Different Conversion Rates

Note that the sales process is not the only important multi-step process that can be measured. There are a number of different conversion rates worthy of measurement on most business websites. For instance, below are some other activities that can be measured for improvement.

- Downloads
- Lead generation forms
- Search functions
- Navigation leading to information

The most valuable processes you can measure (besides conversions) are those that collect information of value from your visitors that can benefit your business. As a final note, make comparisons only to your own previous site data. Do not compare your site metrics to those of your competitors or to industry averages; such comparisons are meaningless.

Using Conversion Measurement Tools

When you have an activity in mind that you would like to measure, you should first ask yourself: "If we can get more visitors to complete this activity, will our site become more successful?" If the answer is yes, then go ahead and measure. The most frequently measured online business activities are:

- Sales process - to identify which steps contribute to drop-off, and to monitor changes in conversion and abandonment rates.
- Registration process - to understand what personal information visitors do not want to provide.
- Long Product/Service Demos - to ensure prospects see the entire demo and not just part of it.
- Onsite Search - to ensure visitors can find what they are looking for, especially product or support information.

Need Help Measuring Your Conversions? - Measuring Conversions, Measuring Retention.

Step 7: Implement Improvements

Since conversions are critical to business success, it is wise to initiate a program of A/B split testing before final implementation of site changes. Test two different versions when testing copy changes on a call-to-action landing page, one at a time. The table below shows the hypothetical results of such a test.

A/B/C Split Test			
	PAGE A	**PAGE B**	**PAGE C**
Percent of traffic	34%	33%	33%
New sales	200	220	150

Change	N/A	10%	-25%

A/B Testing

One of the most commonly used tools for measuring the effectiveness of a proposed website change or campaign change is A/B testing. You can test different versions against the benchmark, and this test tells you which changes have a better effect and to what degree.

The advantage of A/B testing is that you can send a percentage of your traffic to the page/s with the proposed changes while sending a portion of it to the current page. That way you can retain your current conversion rate for at least part of your site traffic in case some of the proposed changes are unfavorable.

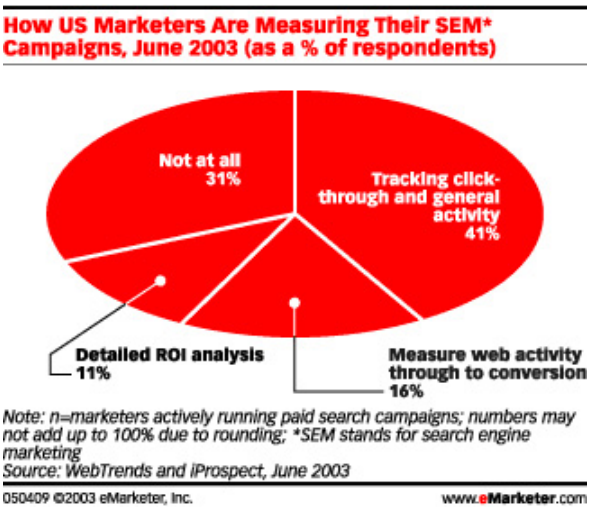
Following are some guidelines that will help you get meaningful, measurable results, if you plan to run A/B tests on a website change or an email campaign.

- Change only one variable at a time. This is a cardinal rule for testing any kind of change. That's because if you change more than one variable at a time, you are unable to determine which variable is responsible for the change and to what degree.
- Learn the precise process for diverting traffic. One of the problems in A/B testing is that marketers don't fully understand the mechanism for diverting traffic, thus are not getting accurate traffic numbers. There are several strategies that can be used to divert traffic, but these are not well understood by the layman. The object of the traffic diversion mechanism is to redirect a known percentage of visitors through a modified process. In the ideal situation, the percentage of traffic to be redirected can be easily changed without having to radically modify pages.
- Establish accurate measures of volume: Start by getting a "visitors per page" count from your web analytics tool as step 1 in A/B testing. This ensures that you actually get the percentage of traffic moving through your funnel that is expected based on the number of changes tested. For instance, if you are running 50/50 through A and B, you should see near equal numbers of visitors to the first page in the process and continue running the test until the numbers have converged to about 50 percent through each path. If it's a three-way test, you should see a distribution of 33/33/34 percent of visitors running through each path.
- Look for significant differences: If you see a difference in the conversion rate for the B test, you need to ensure this difference is significant (>.05) so it can be attributed to the step changed in the sales process. Smaller differences can be due to variations in visitor quality (noise). Run your test until all of the change can be attributed to the exact step that was modified, or until you are certain there was no change.
- Take the time to do a null test: Before A/B testing, run a null test by flowing 50/50 traffic through the exact same pages to be A/B tested. This will verify that you get the same conversion and abandonment rates, and that your measurement tools are set up correctly. If you are not getting close to the same rates (within .05) for both tests then something is wrong, and your data from the A/B test will not be valid. If this problem arises, check that (1) you are sending visitors into the tests exactly the same way, i.e., visitors are not pre-selected, sending more qualified prospects down one path or the other; and (2) you are running enough visitors through the test. Depending on your traffic volume, you need to attain a reasonable sample, and this can take time. But it is worth the effort to run a null test because you will have more confidence in your A/B test data.
- Run your test long enough to ensure results are real. The most common mistake in A/B testing is not running the test long enough to determine actual differences. There may be trends in the first few hours that will reverse themselves later. You need a representative sample before you can assume that B is better than A or vice versa. For information on what constitutes a statistically relevant sample consult a statistics textbook.
- Run segmentation tests: Your analytics solution should provide robust segmentation tools. Segmenting your test subjects will allow you to monitor their activities when they return to your site. This lets you pinpoint a possible high-value group of visitors if it turns out that a good percentage of your B-test visitors (A/B test results favored B over A) returned to the website within two months to make another purchase. You can also compare this information to your site-wide loyalty metrics for a better understanding of the long-term effects of your A/B test.

A/B testing can help you take advantage of the continuous improvement process. The upside of A/B testing is that if your proposed changes are harmful, not all of your visitors are subjected to the unfavorable change, only those that ran through the B test. This is better than making the change without testing and hoping for the best. The downside is that A/B testing is a complex process that takes knowledge, precision and time.

Step 8: Measure Results

In the past, few marketers were tracking conversions, much less return on investment (ROI) for marketing initiatives. In fact, many marketers thought search marketing campaigns were too hard to measure. A 2003 industry study reported that 3 in 10 marketers were not measuring search campaigns, while 4 in 10 were using outdated web metrics such as click-throughs.



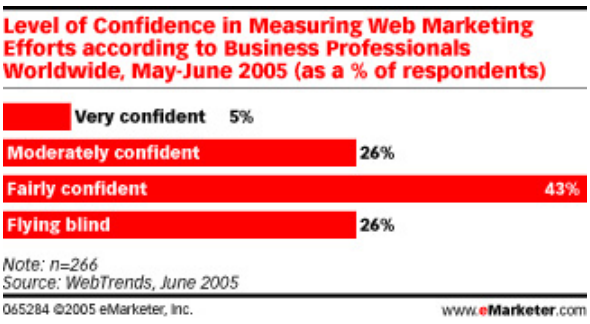
A 2005 search metrics study reveals that nearly 1 out of 2 search marketers who outsource SEO and paid search services either do not elect to measure ROI, are unable to calculate ROI, or can't distinguish between SEO and paid search ROI. This result was obtained despite the fact that most vendors provide access to web analytics tools. One would think that marketers would be interested in validating their vendor's performance by quantifying results using PPC and SEO analytics.

Demand for Marketing Accountability

You've all heard the famous expression, *"I know that half of my advertising is wasted - I just don't know which half."* It's been attributed to retailer John Wanamaker and Unilever founder Lord Leverhulme. Marketing has come a long way since then, especially since the advent of online marketing and the current proliferation of web analytics tools.

While marketers are poised to take a quantum leap in marketing accountability with the availability of the new web analytics tools, few of them have these tools in place to measure their marketing performance. Top level company executives are demanding more accountability from their marketing departments and few CMOs can deliver.

An ANA survey of national marketers conducted this year revealed that the majority of respondents (61.5%) believe advertising accountability should be defined, measured and implemented. However, less than one-fifth (19%) are satisfied with their ability to do so. It sounds like very little progress has been made since 2002, when eMarketer reported that 56 percent of marketers did not have the tools in place for measuring marketing performance.



Even today, marketers do not have complete confidence in measuring web marketing results. Industry research reports that 43 percent of the marketing professionals surveyed indicated they were "fairly confident," while only 5 percent were "very confident". The rest were split, with 26 percent being "moderately confident" and 26 percent admitting to "flying blind."

Step 9: Start Again!

Once you finished the process, the only thing left to do is to start it all over again! Continuously monitoring

your conversions and adjusting your goals and metrics will allow you to stay ahead of your competition. They say knowing is half the battle and this methodology is designed to get you there. By studying your data and implementing different strategies, you will be able to identify the areas that need improvement to better maximize your ROI. Like any other area related to internet marketing, the best way to be successful is with continual refinement. Once you've reached your goals, go back and make new ones. Your reached goals are your new baselines, there is always more to achieve, so continue to set the bar higher.

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