I was recently having a discussion with a Sales & Marketing Vice President who was very frustrated by the reports he received detailing his company’s Web site activity. His goal was simple: he wanted to know what his return on investment (ROI) was for the dollars he spent on re-designing, promoting, and managing the site in recent months. The answer to his question was not easy to obtain. First, his company does not sell products directly on the Internet, so there are no “orders” from the site to add up. Second, the reporting tool used to analyze his Web logs (more about these below) gave him too much information in some places, and too little in others. He wasn’t sure which of the many items in the report were the important ones. I believe that his frustration is common, and that his challenges are two of many that cause lots of companies to balk on obtaining a definitive answer to the Web ROI question. I am working now with the Sales & Marketing VP described above to develop a Web Metrics Plan for his company’s site, and that meeting prompted me to turn my attention to the topic of Web Site Metrics for this issue of the WC Journal.

What You Don’t Know Can’t Help You

There’s lots of data about your Web site out there. If you choose to avoid it, it can only prevent you from knowing valuable information that could dramatically impact the profitability of your site.

I have met with a lot of companies who tell me that they are not regularly monitoring the activity of their Web site or measuring its impact on their business. They “kind-of-know” what’s happening based on obvious indicators (e.g., orders, if they take them), but do not have a regular process in place to evaluate success metrics. There is a second tier of companies where at least one person gets and reviews the regular reports from their hosting provider (or IT Department) and can proudly display a fat folder full of them. These folks can generally tell you if traffic is going up or down and possibly a few other statistical nuggets that caught their eye, but little else about the impact that their site has on overall business results.
The Web is the most measurable marketing medium out there, and it’s unfortunate that so much helpful information simply goes to waste. By analyzing this data, you could identify problems that can be fixed and quickly make your site a more profitable venture.

Your Web Site Data

So why aren’t companies aggressively going after this data? Here are a few reasons:

- They don’t know that the data is available
- They don’t know how to get at the data even if they know it’s available
- There’s too much information and it’s difficult to make heads or tails out of it
- There’s no one on staff with the skills or time to adequately analyze the data

These are all valid issues. Let’s first discuss what kind of data is available, and then see how we can get at it and derive some business value from it.

Where is the Data?

The data we’re interested in exists both on the Web server and off-site. The server itself logs every request made to the site. For example, a request for an image—which is part of a page—is a separate transaction. For each page requested (say your home page) there are several lines of transactions in the Web server logs. This results in very large log files that are difficult to interpret in raw form (Figure 1).

Figure 1: A small portion of a day’s server log from www.weidmanconsulting.com

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Web logs may not record everything you need to complete your metrics analysis, though. For instance, logs cannot tell you if a visitor has been to your site before. Web site developers can build additional data collection mechanisms into Web sites to solve some of these problems. (Cookies, which are used to track your identity over one or more visits to a site, are an example of this.) Web analytics software companies (see below) have recognized this, too, and some have built off-site systems to report your site activity in much greater detail. By placing a small bit of code in each of your Web site pages, your site feeds the off-site system with much more information than is recorded in the logs. The data is stored in the off-site system’s database, and is accessed using Web-based reporting tools to view and analyze the results. Of course, some companies dismiss such a setup since it records all Web site visitor movements and actions into a third-party database.

Some of the metrics information you might need is not created by your Web site. If your site is one that facilitates the sales process but doesn’t directly sell a product or service, then some the needed data might be in call center logs, sales pipeline reports, accounting applications, etc. For example, it will be necessary to identify the costs related to marketing and support for the site in order to determine net profitability. There will also be some effort required to correlate the off-site data with the Web site log data.

So the data is out there. Depending on what you choose to measure, it might be readily available in your Web logs, obtainable only with code changes to your site, or existing in reports and systems managing various areas of your company.

**How To Get the Data**

It doesn’t take a lengthy look at *Figure 1* to understand that reading logs in their raw form is a task left only to those with disposable time on their hands. For this reason numerous software companies have developed Web analytics packages that crunch and interpret the data. WebTrends ([www.netiq.com](http://www.netiq.com)) is one of the most popular of these, but there are many good applications out there that have similar capabilities. It is likely that your hosting provider offers a Web reporting tool for your site that analyzes the logs sitting on your Web server. Alternatively, you may have access to the raw log files so that you can download them and analyze them with a tool running on one of your own computers. (Caveat: log files can be big to store and it can take a while for analytics packages to process the data.). In either case, the tools generally provide a series of Web-based reports that you can view, export, and print.

Some examples of the information available in your log files are:

- How many visitors came to the site
- Pages requested (most popular, least popular, and everything in the middle)
- How many hits the site had (which is a very useless piece of information since a hit translates to one request line in the log; there are many hits recorded for each page requested)
- What geographies visitors came from
- What organizations visitors came from (e.g., it is possible to tell that one visitor is using AOL for their Internet access versus another who was using a computer in the microsoft.com domain)
- Which search engines sent traffic to your site, and what search phrases were used to find you
- What kind of Web browsers your visitors are using

Each analytics package offers its own set of features and reports that enhance the basic info outlined above. One package, LiveStats, has an online demo that’s fun to play with and gives you a better idea of the possibilities (see Figure 2 and also the “Live Demo” link at http://www.deepmetrix.com/log_analyzer/corporate/). All of the popular Web log analysis programs try to make it easy for non-technical folks to view the data.

![Figure 2: A sample report from LiveStats 6.2](image-url)
For the non-Web log data that you need, you’ll have to rely on the availability of information from call center logs, accounting applications, etc. to complete the data-gathering process.

**How To Interpret the Data**

So the tools make it much easier to visualize what’s contained in the log file transactions, but it can still be overwhelming to find the nuggets of information that really tell you what you want to know. What’s missing at this point is the connection between the data on the screen and measurable business events. Making those critical connections is the goal of the *Web Metrics Plan* discussed below.

One of the barriers noted above was the lack of skills and time to analyze the data. From a skills perspective, the tools available to report on Web site activity are accessible for even the novice user. I believe that the problem is not the lack of skills to interpret the data, but rather the lack of clarity about what to look at in the sea of reports that are generated. The same argument applies to the lack-of-time issue. If a fixed set of measurements are defined that are repeated for each weekly or monthly report, the task becomes focused and much shorter in duration. The *Web Metrics Plan* defines what to measure and how to measure it, formalizing and simplifying the task of reporting Web site performance. By having a set process and the analytical tools in place to do the bulk of the reporting work, the delivery of a weekly or monthly metrics report can become a turnkey task.

**The Web Metrics Plan**

With a basic understanding of what data is available to you, it’s time to take a step back from the technology and look at this problem from the perspective of a business challenge. In order to evaluate how effectively your site is delivering dollars to your bottom line, you need to know more than how many visitors came to the site, and how many bought (which is your overall conversion rate). To make the connection between the business challenges at hand and the volumes of data available, a *Web Metrics Plan* can be developed. The *Plan* should:

- Classify Web site visitors
- Define customer lifecycle stages
- Define metrics for each lifecycle stage
- Document how to gather the necessary data for each measurement

**Classification of Web Site Visitors**

Web sites generally get visits from different user types. There may be significant differences between the appropriate metrics for a business-to-business visitor versus a consumer visitor. For this reason, the process should begin by identifying the different visitor types and discussing how each type might use the site.
Definition of Customer Lifecycle Stages

Of fundamental importance to the metrics process is a clear definition of each stage in the customer lifecycle. When does a prospect suddenly become a qualified prospect? What indicators are there that customers are becoming referring customers? The development of definitions for each customer lifecycle stage is necessary prior to the development of Web site metrics. Each user type defined in the first step might have its own set of lifecycle stages.

Development of Metrics for Each Lifecycle Stage

The metrics themselves define what needs to be measured. For each of the customer lifecycle stages, Web site metrics should be defined. Metric categories include:

- **Reach** – how effectively the site’s marketing plan brings traffic to the site
- **Click-depth** – how far down into the site visitors are going
- **Frequency** – how often visitors return to the site
- **Duration** – how long visitors stay at the site (with the caveat that busy customers don't want to be on your site too long finding what they need)
- **Calls-to-action** – number of newsletter signups, requests for quotes, products placed in shopping carts, or any other relevant site actions that visitors might take
- **Referrals** – how many visitors became your best marketing tool and told their friends to visit your site
- **Dollars per transaction** – the average value of a customer’s first purchase
- **Cost of acquisition** – marketing dollars needed to acquire each customer
- **Net profits** – cash is king, of course

You will need to review each lifecycle stage and determine what metrics are the best indicators of success at each level. This is the difficult part. But it is made easier by focusing on the business needs (moving site visitors through the lifecycle stages at a “high velocity”) before getting caught up in all of the data available. In Issue III of the WC Journal, “Web Site Strategy – Part 1,” we discussed the two major Web site goals related to Internet Marketing and Conversion. On the Internet marketing side, you will want to consider how much you spent and how much traffic you received from each component of your campaign. On the Conversion side, consider what visitor actions and behaviors are desirable in order to help you identify your initial metric set. Figure 3 shows some examples of metrics that could be associated with lifecycle stages.
Identification of Measurements for Each Metric

Once the right metrics for your business are defined, a method for collecting the necessary data needs to be established. The data may reside in your logs, or other locations as discussed above. Your available budget and timeframe might dictate that it’s necessary to start with the data available to you in your logs and extend the reach and sophistication of your data collection processes over time. But by defining your metrics related to your customer lifecycle stages first, it becomes an easier task to identify which reports and data you need to focus on, and not get bogged down in the volumes of data available to you.

Plan Execution

By documenting the lifecycle stages, metrics for each one, and a data-gathering process, the task of evaluating your Web site’s impact on a weekly or monthly basis becomes much more manageable. The availability of tools make the data acquisition easier, allowing you to focus your time and energy on analyzing the results and identifying the necessary changes to make the site more successful.

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We hope that you continue to find insight and value in the WC Journal, and we welcome your comments, which can be addressed to Will Weidman at will@weidmanconsulting.com.

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