Chapter 1

Understanding Web Analytics

In This Chapter

▶ Appreciating the value of Web metrics

▶ Taking a behind-the-scenes look at your Web site

▶ Keeping up with the Joneses

▶ Investing your time and money wisely

A long time ago, in a World Wide Web far, far away, *Web counters* — those rudimentary software programs that indicate the number of online visitors — were the only way to tally how many eyeballs viewed your Web site. You knew nothing about where those visitors came from, what brought them there, what they did while they were there, or when they left. You could experience the thrill of watching the Web counter jump from 100 to 1,000 in January but then drive yourself crazy trying to repeat the performance in February.

Today, even free *Web analytics tools* — software that analyzes the behavior of site visitors — offer the nitty-gritty details about what, when, from where, and why visitors come to your site. And top-dollar solutions, with their ultra-sophisticated technologies, are getting so detailed that you may soon know what your visitor ate for breakfast. (Okay, not really, but an online grocer could at least collect data about what visitors like to eat by analyzing their *clickstreams,* the recorded paths that a visitor takes through your Web site.) So as far as the Web goes, George Orwell's prophecies are true: Big Brother is indeed watching.

The overarching goal of monitoring your Web analytics is to make improvements to both your promotional initiatives and your Web site design. If you know how visitors find your site and then how they subsequently use your site, you can take measured steps to make the most of your promotional campaigns and your visual presentation. The bottom line is this: The easier it is for visitors to find your site — and the more comfortable they feel while they cruise around it — the better your chances to convert that traffic into paying customers and repeat visitors.

This chapter gives you an overview of Web analytics, what these tools measure, who should use them, why they are valuable in your quest to generate revenue, and what you could be losing by not paying attention to the wealth of visitor data that this software compiles.

Web Analytics: Why Bother?

Maybe you need a little more convincing. After all, there is an admitted learning curve with Web analytics programs, and you're already undoubtedly busy enough just keeping your site updated, much less dissecting statistics, charts, and graphs. Why bother, you ask? The answer is clear: Understanding Web analytics can unlock business strategies that pay dividends even while you sleep.

There are already millions and millions of Web sites, and that number grows day by day. An August 2006 Netcraft survey reveals more than 92 million Web sites are up. Netcraft is an Internet services company that provides security services and research data and analysis. That's 4 million Web sites more than in July and 8 million more than in June. It's more than likely that thousands — or even hundreds of thousands — of Web sites are competing for the same traffic you are. Web analytics can help you build strategies that make you stand out from the pack.

Who should use Web analytics?

Anyone who hopes to use the World Wide Web to generate income or leads should use Web analytics. Major e-commerce brands use Web analytics data to make real-time changes to their sites. Affiliate marketers use analytics to discern what programs are paying off as well as which ones merely take up space. Online lead generators tap Web analytics to measure how keywords are working, and information portals depend on these metrics to offer traffic figures to their advertisers.

Consider the following questions to determine whether you should invest in Web analytics software:

- ✔ Is my Web site a channel for revenue generation?
- ✔ Do I have high traffic counts but low conversions?
- ✔ Am I investing in paid-search campaigns through Google, Yahoo!, or some other search engine?
- ✔ Am I actively pursuing link building campaigns and link exchanges?
- ✔ Do I engage in e-mail marketing?
- ✔ Am I planning a site redesign?

Browser blues?

When you look at the Browser section of your Web analytics report (as shown in the figure), you might be surprised to see how many browser brands there really are. Most people use Microsoft Internet Explorer or Mozilla Firefox, but many others are available, including Safari, Opera, and Netscape. What you need to know is that your Web analytics report lists these browsers, in part, so you can make sure your site design is optimized for the most common browser. Sometimes a Web site looks much different on an Apple browser than it does on an open source browser or a Microsoft browser. In fact, the site can look skewed and jumbled on some browsers. Make sure that your designer tests the site on the most popular browsers so you can make the best possible impression.

You can read more about the browser section of your report in Chapter 9.

Statistics of freebookclubs.com (2007-02) - Microsoft Internet Explorer			
File Edit View Favorites Tools Help			
Browsers (Top 10) - Full list/Versions - Unknown			
Browsers	Grabber	Hits	Percent
MS Internet Explorer	No	67204	90.9 %
Firefox	No	3879	5.2 %
Unknown	7	995	1.3 %
Safari	No	909	1.2 %
Netscape	No	438	0.5 %
LibWWW	No	235	0.3 %
Mozilla	No	158	0.2 %
Opera	No	42	0 %
Links	No	7	0 %
Konqueror	No	4	0 %
Others		4	0 %

If you answered "yes" to any one of the preceding questions, you should begin to use Web analytics today. The truth is that your competition is already using Web analytics. You could be missing golden opportunities to turn the traffic you've worked so hard to generate into sales, subscribers, or members.

You can't afford not to invest in this software. Neglecting Web analytics in today's information-based society is akin to working in a retail store wearing a blindfold and earplugs. You might make some sales just because the doors are open, but you won't know who your customers are, where they came from, or how long they stayed — you get the picture.

Why you should use Web analytics

Here is a list of the top ten compelling reasons to use Web analytics:

1. **You can identify which site referrers generate the most traffic and revenue.** The *site referrer,* or *referring page,* is the URL of the previous Web page from which a link was followed. This is a good way to identify which Web site owners you should foster relationships with, and which ones you can afford to forget about. See Figure 1-1 to see how your Referrer report looks in the free server-side analytics application AWStats.

2. **You can determine what products have the highest browse-to-buy ratios.** That way, you can get rid of products — or content, in the case of an informational portal — that has the lowest revenue-generating potential.

3. **See which campaigns work — and which ones don't.** You can cut off promotional campaigns that aren't working and beef up campaigns that bear fruit.
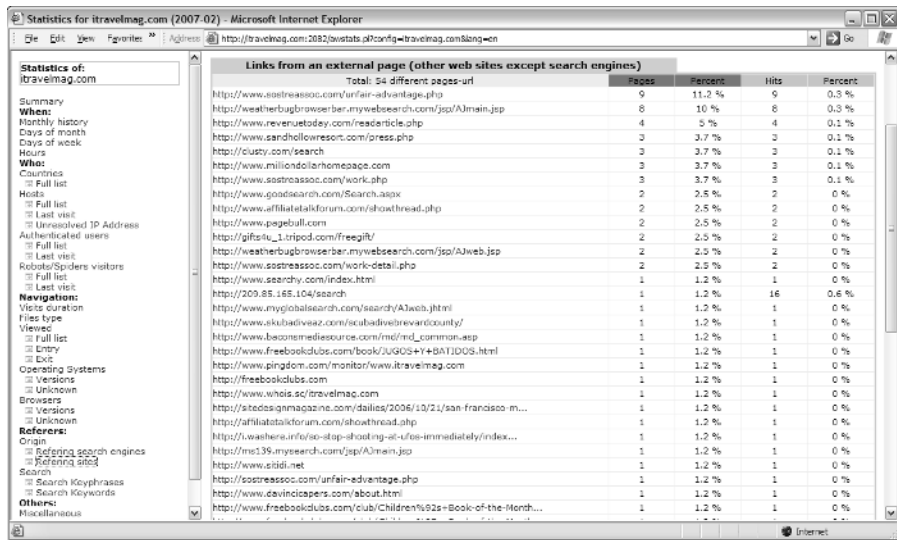

Figure 1-1: Referrer report from AWStats.

4. **You can measure the impact of the online channel on your overall business.** If your e-commerce Web site is generating more revenues than your bricks-and-mortar business, then it may be time to close up shop and concentrate all your efforts on the Web. If your Web site is generat-

ing more leads than other forms of advertising, then you may want to sink more into the former and less into the latter. By contrast, if your Web site is not making much of an impact on your business, then you need to consider some strategies to boost traffic or convert the traffic you already have. It could be poor design, poor content, or just poor marketing efforts. Your Web analytics program can give you some clues.

5. **You can discover which visitor groups are most likely to become customers, subscribers, or members.** Then you can adjust your marketing efforts accordingly.

6. **You can analyze your visitor clickstreams.** From this information, you can make changes to your site *hierarchy* (how you arrange your Web site) to improve your rate of *conversion.* Conversion occurs when you close the deal — when you convert a visitor to a buyer, subscriber, or member.

7. **You can identify cross-selling opportunities.** Use this information to increase sales to the same customer by introducing other similar or complementary products. Amazon has championed this concept in the online space as it uses massive stores of analytics data to identify and recommend related products, as shown in Figure 1-2.
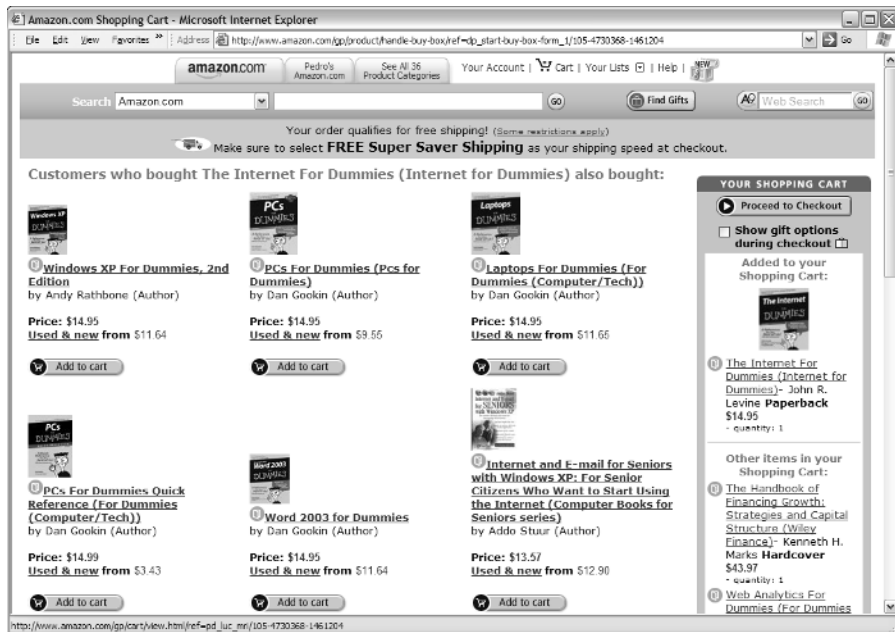

Figure 1-2: Amazon.com page, which recommends related products.

8. **You can determine the effect of adding new content to the site.** If the new content you added causes visitors to stay on your site longer and/or increases your conversion rates, then your wordsmithing is to be congratulated. If the new content has the opposite effect, revert back to what you were doing — quick!

9. **Track the keywords that visitors search for within your site.** Then you can develop new product lines, services, or content based on those keywords.

10. **Find errors in your site.** With this information in hand, you can eradicate errors that could frustrate customers, such as broken links and pages that no longer exist.

Of course, there are many other benefits to keeping tabs on customer behavior, and in the end, careful attention to your analytics, and actions based on that data will result in converting more visitors into customers, subscribers, or members. When the right analytics tools are in place, you will have new information to work with daily, or even in real-time depending on how sophisticated your Web analytics software is.

The importance of benchmarking

You won't know how far you've come if you don't record where you were — *benchmarking* — and compare that with where you are now. Before you invest your time, energy, and money into generating more traffic, be sure to set specific goals based on the available metrics. For example, if you want to

- ✔ **Generate more international traffic:** Record how many countries you reach.
- ✔ **Boost your weekend traffic:** Record the average daily visitors before you begin.
- ✔ **Beef up your newsletter subscriptions:** Tally your current subscribers now.

Benchmarking your starting point allows you to measure your specific goals. For more on benchmarking, see Chapter 15.

Web Analytics 101

Web analytics isn't about gathering data for the sake of gathering data any more than a police detective collects clues for the sake of collecting clues. In both cases, the goal is to solve a mystery. Instead of detailing criminal activities at the scene of a crime, Web analytics details visitor activities on a Web site.

There are two sides to your Web analytics story; the software and the human element:

✓ **Web analytics software** collects data on Web site users' behavior.

✓ **The human element** involves sifting through data about a visitor's online experience to determine which site changes could improve that experience.

Maybe you've stumbled upon your Web analytics tools by accident and couldn't make heads or tails of the charts, graphs, lists, and icons. Or maybe you never even knew about a way to go behind the scenes and examine a visitor's pathway through your site.

Either way, if you aren't sure what to measure or how to start thinking about Web metrics, you can't benefit from the valuable clues that they provide. Taking a moment to review the basic language of Web analytics software can put you on a path to knowledge that leads to power.

Thinking like a journalist

You've probably heard the journalist's rule to tell the reader who, what, when, where, and why. That's just what Web analytics does at its most fundamental level. The following sections outline the basics of what you can expect to glean from your Web analytics software.

Who

The Who category gives you the inside scoop. First, you can see what countries visitors came from. This is where you see the *world* in the World Wide Web. You might be surprised to discover that your visitors live in such far away places as Singapore, Algeria, or Switzerland. This category might also reveal the Internet service provider (ISP) of the visitor as well as whether the visit is from an authenticated user or a search engine spider.

✓ **Authenticated users** are users who were required to log in, such as subscribers or members.

✓ Also known as *Web crawlers, robots,* or *bots,* a **search engine spider** is an automated script or program that browses the Web. Search engines use spiders to gather up-to-date data as they index the Web.

Benefit: Knowing who your visitors are can help you cater to their specific needs. If most of your users are members or subscribers, you can do member polling and make changes to your product, service, or content offerings accordingly. If most of your users are from Japan, you may consider translating your site into Japanese or making design changes that appeal to their cultural preferences. If most of your visitors are search engine spiders, you've got major issues! You need to launch some online and perhaps offline promotional

campaigns to get the word out. You can get some ideas of the different types of online strategies you could employ, along with tips on how to measure their effectiveness, in Chapter 16.

What

The What category tells you what the visitor did during his time on your site. You can discover how long the visitor stayed, what types of files he viewed (images, static pages, JavaScript files, and so on), what specific URLs were visited, and which operating systems and browsers were used to navigate your site.

Benefit: Knowing what the visitor did on your site can help you understand what his interests are. If a high percentage of your visitors spent most of their time on a handful of pages, then you can quickly discern what their interests are and add more of the same to your site. If most of your visitors are down-loading one white paper over all the others you've posted or reading certain articles more than others, you can safely assume that you've struck content gold. If your visitors are spending lots of time on your FAQ pages, you might conclude that they are confused and need better online customer support. The point is to pay attention to what visitors did on your site to look for trends — positive or negative — and make any necessary adjustments to your site.

When

The When category tells you just that — when visitors traveled across your virtual domain. You can see this data broken down by the number of unique visitors, how many visits as well as how many pages and how many hits were tracked each month, each day of the month, and each hour of the day (see Figure 1-3). You can also break this data down to determine which days of the week and which times of day see the most traffic.
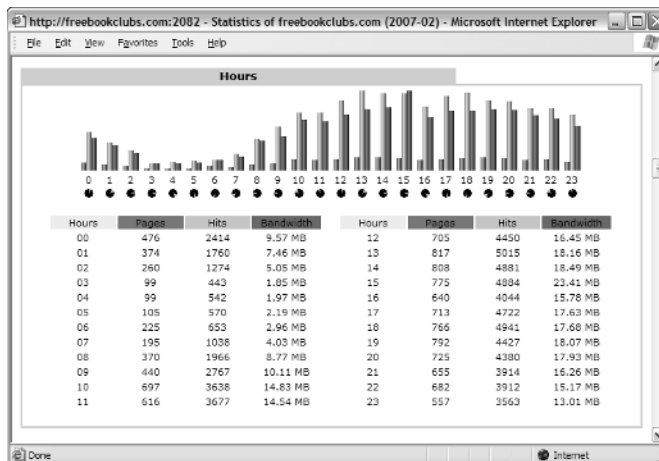

Figure 1-3: Visitor report broken down by time of day.

Hours	Pages	Hits	Bandwidth	Hours	Pages	Hits	Bandwidth
00	476	2414	9.57 MB	12	705	4450	16.45 MB
01	374	1760	7.46 MB	13	817	5015	18.16 MB
02	260	1274	5.05 MB	14	808	4881	18.49 MB
03	99	443	1.85 MB	15	775	4884	23.41 MB
04	99	542	1.97 MB	16	640	4044	15.78 MB
05	105	570	2.19 MB	17	713	4722	17.63 MB
06	225	653	2.96 MB	18	766	4941	17.68 MB
07	195	1038	4.03 MB	19	792	4427	18.07 MB
08	370	1966	8.77 MB	20	725	4380	17.93 MB
09	440	2767	10.11 MB	21	655	3914	16.26 MB
10	697	3638	14.83 MB	22	682	3912	15.17 MB
11	616	3677	14.54 MB	23	557	3563	13.01 MB

What's up with error codes?

If you're alarmed at the number of *HTTP (HyperText Transfer Protocol)* error codes you find in your Web analytics report (shown in the figure), don't be. Common HTTP error codes include

✔ `Document Not Found`: This error occurs if the file that a visitor is trying to access has been moved or deleted.

✔ `Too many users`: This error usually means too many visitors were trying to access your site at the same time or that you have run out of bandwidth, in either case, you should speak with your Web hosting company to determine what you can do to remedy these errors.

✔ `Internal server error`: This error requires a little more investigation; it could be caused by any number of reasons. Although this metric is not included in your other charts and does not skew your overall numbers, you need to identify and correct these errors because you could be frustrating visitors, losing sales opportunities, or both.

You can read more about identifying and correcting error codes in Chapter 10.

HTTP Error codes*		Hits	Percent	Bandwidth
404	Document Not Found	403	82.4 %	4.52 MB
206	Partial Content	74	15.1 %	334.08 KB
403	Forbidden	5	1 %	0
301	Moved permanently (redirect)	3	0.6 %	768 Bytes
302	Moved temporarily (redirect)	3	0.6 %	667 Bytes
400	Bad Request	1	0.2 %	0

* Codes shown here gave hits or traffic "not viewed" by visitors, so they are not included in other charts.

Benefit: Knowing when your visitors enter your site can help you track the effectiveness of special promotions or seasonal sales.

Where

The Where category tells you where the visitor came from. These are as *site referrers.* Referrers could be search engines, Web ring partners, link partners, affiliate marketers, or a host of others. You can read more about site referrers in Chapter 9.

Benefit: Knowing where your visitor came from helps you strategize link partner and paid-search campaigns. You can also learn more about your visitors by seeing what types of sites they frequent.

Why

The Why category tells what drew them to your site. That could include site referrers (such as search engines) or keywords and keyphrases that visitors used to find you in those search engines.

Benefit: Knowing why the visitor came — and what she was looking for — gives you the knowledge you need to make adjustments to your products, services, and content.

As you put on your journalist's cap, be sure to do what any good journalist would do on a breaking news story: Take notes. Although your Web analytics software will chronicle and store your site's data, you'll want a quick reference of the top visitors, keywords, and site referrers at the tip of your fingers so you can compare them with a glance to identify trends.

The language of Web analytics

As you venture into the world of Web analytics, you'll quickly notice that it has a language of its own. You might even feel as if you've been submersed in a foreign culture without a translator as you begin to hear words like *hits, traffic,* and *sessions* that have totally different meanings online than they do offline.

Like any new language, the best way to become fluent is to begin with the fundamentals. In Web analytics, those fundamentals — or core metrics — are found in the five Ws in the journalist's toolbox. Specifically, the heart of Web analytics is captured in the following terms:

- ✔ **Hits**
- ✔ **Pageviews**
- ✔ **Visits**
- ✔ **Unique visitors**
- ✔ **Referrers**
- ✔ **Keywords and keyphrases**

Take a look at each one of these terms and what they mean in the big picture.

For more on the language and terminology of Web analytics, be sure to check out the Appendix at the end of this book.

Hits

People love to boast about this metric. A *hit,* or impression, is created when your Web server delivers a file to a visitor's browser. PDF, sound files, Word documents, and images are a few examples of files that generate hits. A

request for a page with five images would count as six hits: one hit for the page itself plus one hit for each of the five images. This has been a popular metric with sites hoping to score advertising, but it can be deceiving. See Chapter 2 for an in-depth look at common terminology confusion.

Pageviews

A *pageview* is recorded each time a visitor views a Web page on your site. This metric reveals how well your site captured the interest of your visitor. Simple analytics programs divide the number of visitors by the number of pageviews to determine the average number of pages each visitor viewed. If that number is low, you might need to rethink your content, design, or hierarchy.

Visits

Sometimes called a *session* or *user session,* a *visit* describes the activity of an individual user on your site. You could also say that a visit is a series of views by the same visitor. It's interesting to note that most analytics tools will end the session if the visitor remains idle for 30 minutes although that time limit can often be adjusted in your software's options.

Unique visitors

The *unique visitors* metric represents the number of individual people who visit your Web site. Each individual is counted only once, so if a person visits your site five times in the reporting period, that behavior might count as five sessions but only as one unique visitor. Most analytics programs track unique visitors by their *IP address,* which is the unique string of numbers that identifies a computer or server on the Internet.

Some users are assigned dynamic IP addresses from the ISP. That means that their IP address changes daily, or sometimes even every few hours or minutes. These types of users might skew your number of unique visitors slightly.

Site referrers

The *site referrer,* or *referring page,* is the URL of the previous Web page from which a link was followed. A referrer could be a search engine, a blog, a banner ad, an e-mail, an affiliate marketer, a Web ring, a link partner, or some other Web site. Your Web analytics program will record the exact URL of the site that referred traffic so you that can measure the success of your various traffic-building initiatives.

Keywords and keyphrases

Keywords and *keyphrases* are appropriately named because they hold the key to potentially significant traffic. People use these words to search for products, services, and information on the Web. You can pay search engines to display your advertisement in the results of a user's search based on the

keywords and keyphrases you choose. If you are selling helium balloons, for example, you might pay Google to display a link to your Web site when searchers enters the keyphrase *helium balloons* into that engine.

WARNING!

Don't wait until the end of the month to view your Web analytics report. You could be losing valuable opportunities to convert customers — and you could be wasting your paid-search ad dollars. By monitoring your Web analytics software weekly — or even daily — you can reap the full potential of this intelligent tool.

The Bandwidth report

Your Web host probably has a limit to the amount of *bandwidth* (the data that is transferred to and from your Web site) that you can use in a given month. Web analytics tells you precisely how many *bytes* (a unit of measurement for data) your site is sending to and receiving from users. The bottom line is this: The more traffic you get, the more bandwidth you need. If you run out of bandwidth, your visitors might not be able to view your Web site. Another metric

in the Bandwidth report (shown in the figure) is bytes per second (bps). This measures the average transfer rate. If your transfer rate is set too low by your hosting provider, your Web pages might load very slowly — and your visitors might get impatient and leave.

You can read more about the bandwidth report in Chapter 3.