Measuring Success

Lord Kelvin is often quoted as the reason why metrics are so important: "If you cannot measure it, you cannot improve it." That statement is ultimately the purpose of web analytics. By enabling you to identify what works and what doesn't from a visitor's point of view, web analytics is the foundation for running a successful website. Even if you get those decisions wrong, web analytics provides the feedback mechanism that enables you to identify mistakes quickly.

In Part I, you will learn the following:

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1 Why Understanding Your Web Traffic Is Important to Your Business

Web analytics is a thermometer for your website—constantly checking and monitoring your online health. As a methodology, it is the study of online experience in order to improve it; without it, you are flying blind. How else would you determine whether your search engine marketing is effective at capturing your maximum potential audience or whether negative blog comments are hindering conversions? Is the user experience a good one, encouraging engagement and return visits, or are visitors bouncing off your website after viewing only a single page?

In Chapter 1, you will learn:

The kinds of information you can obtain from analyzing traffic on your site
The kinds of decisions that web analytics can help you make
The ROI of web analytics
How web analytics helps you understand your web traffic
Where web analytics fits into your organization

Website Measurement—Why Do This?

It's an obvious question and one that has an obvious answer —as provided by the 19th-century scientist Lord Kelvin, in my opening paragraph of Part I. But this question still comes up at initial meetings within an organization where website performance is being discussed. The idea of applying a measurement tool to assess a website's effectiveness is an easy sell—every business owner/executive understands the importance of measurement, but "why do we need another measurement tool in our business?"

The most common fear is data overload—collecting more information just because you can inevitably leads to more confusion, not clarity. This is particularly the case when your website is operating as a silo, that is, not integrated with the rest of your business—a common problem if yours is a nontransactional website. Therefore, an important early step when deciding on a website measurement strategy is to define the *value* that web measurement can bring to your business. You can achieve this whether yours is a transactional site or not (see "Monetizing a Non-E-Commerce Website," in Chapter 11, "Real-World Tasks"), though here I illustrate *value* using transactional examples because these are easier to grasp in the first instance.

Figure 1.1 shows the improvement a travel website gained by optimizing their online booking process—that is, the steps a visitor takes in order to book a chosen vacation. (In Google Analytics terminology, the booking process steps are referred to as a *funnel*—directly analogous to any sales funnel in your organization.)

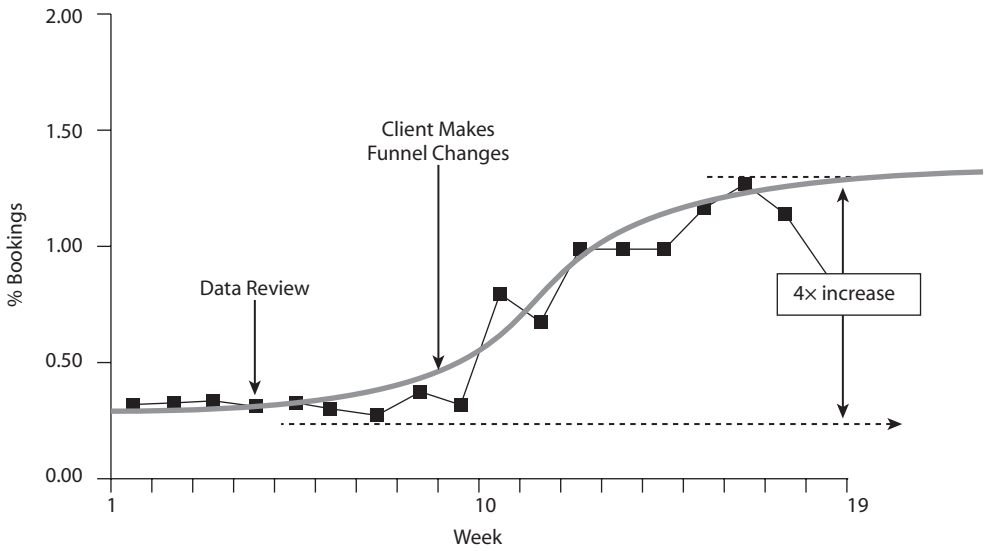

Figure 1.1 Conversion rate change of a travel website before and after improvements. Line of best fit for guidance only.

As you can see, the changes to the booking process took several weeks to implement (the client was not confident enough to take on board all the recommendations at once!), but the cumulative impact was dramatic—a 383 percent increase in their booking conversion rate. Put in monetary terms, this equated to an annualized increase in revenue of $7.5 million.

The second example of the *value* of web measurement is shown in Figure 1.2. In this case, a measurement tool was able to quickly identify problems following the launch of a new site redesign. Essentially, server redirects were incorrectly assigned in the new site, which resulted in a 48 percent loss of search engine traffic and a 21 percent loss in sales revenue. Following the identification of the problem, the client's visitor and revenue numbers were back to previous levels within four weeks.

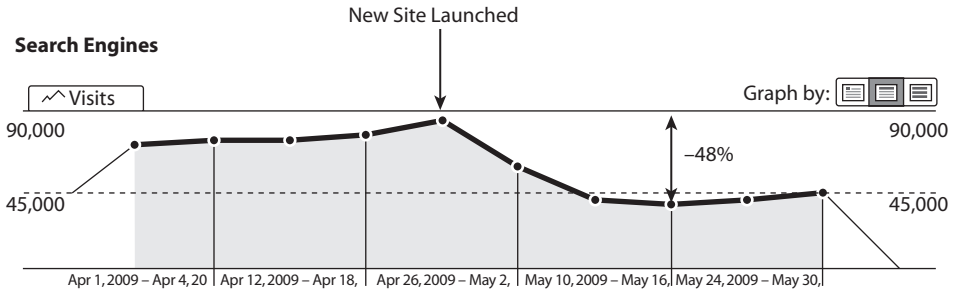

Figure 1.2 The loss of search engine traffic following the launch of a new design

If your website is an important part of your business strategy, then website measurement is also important to that strategy. The magnitudes of each are strongly correlated—that is, the more valuable your website is to you, the greater the significance of your web measurement tools. Such tools can be used to identify growth opportunities, measure efficiency improvements, and highlight things when they go wrong.

Glossary of Terms

At this stage it would be useful for you to be familiar with some of the terminology used in Google Analytics. The following is a short summary. For a more complete list, see `http://www.google.com/support/googleanalytics/bin/topic.py?topic=11285`.

Bounced visitor A visitor who views only a single page on your website and has no further actions. This is generally considered a bad experience.

Campaign The name of a paid campaign, for example, "book sales" (for a paid search campaign), "spring sale" (for a banner campaign), "January newsletter" (for an email shot).

Google Analytics Tracking Code (GATC) This snippet of code must be added to every page on your website to enable Google Analytics to collect and report on visit data. Also more generally referred to as the "page tag."

Continues

Glossary of Terms *(Continued)*

Goal conversion Often abbreviated to just "goal" or "conversion," this is a desired action on your website that is defined as being more valuable than a standard pageview. For example, a "purchase confirmation" page (visitor becomes a customer), a "thank you for registering" page (visitor becomes a prospect), a download page, or an online presentation (visitor becomes engaged).

Funnel A well-defined process (most usually pages) leading to a conversion goal, for example, a check-out system.

Landing page The first page visitors arrive on when they visit your website. Also known as the "entrance page."

Medium In the context of campaign tracking, *medium* indicates the means by which a visitor to your site received the link to you, for example, "organic" and "cost-per-click" for search engine links, "email" and "PDF" in the case of newsletters, "referral" for sites that link to you, and "direct" for a visitor who types your web address directly into their browser.

Referrer The URL of an HTML page that refers visitors to a site, that is, the external page visitors click on to bring them to your website.

Return on investment (ROI) Calculated as (revenue - cost) / cost and displayed as a percentage.

Session Also referred to as a "visit" or "visitor session," this is the period of interaction a visitor has with your website. A session ends when a visitor either closes their browser or 30 minutes has elapsed without activity. The session timeout value can be adjusted (see Chapter 7, "Advanced Implementation"), though 30 minutes is the unwritten industry standard.

Site search A website's *internal* site search facility (internal search engine), mostly used on sites with large volumes of content in order to improve the user experience, that is, find information faster.

Source In the context of campaign tracking, the source is the origin of a referral, for example, google.com, yahoo.co.uk, the name of a newsletter, or the name of a referring website.

URL (Uniform Resource Locator) A means of identifying an exact location on the Internet. It is how Google Analytics tracks and reports on pageview activity for your website, for example, `http://www.mysite.com/products/widget1.php`. URLs typically have four parts: protocol type (HTTP), host domain name (`http://www.mysite.com`), directory path (/products/), and filename (widget1.php).

Information Web Analytics Can Provide

In order to do business effectively on the Web, you need to continually refine and optimize your online marketing strategy, site navigation, and page content (as well as how your offline marketing, press releases, and communications interact with your website). A low-performing website will starve your return on investment (ROI) and can damage your brand. But you need to understand what is performing poorly—the targeting of your marketing campaigns, poor reviews of your products/services on the Web, or your website's ability to convert once a visitor arrives. Web analytics provides the tools for gathering this information and enables you to benchmark the effects.

Note that I have been deliberately using the word *tools* in its plural form. This is because the term *web analytics* covers many areas that require different methodologies or data-collection techniques. For example, *offsite tools* are used to measure the size of your potential audience (opportunity), your share of voice (visibility), and the buzz (comments/sentiment) that is happening on the Internet as a whole. These are relevant metrics regardless of your website's existence. Conversely, *onsite tools* measure the visitor's onsite journey, its drivers, and your website's performance. These are directly related to your website's existence.

Figure 1.3 schematically illustrates how onsite and offsite web analytics tools fit together. From a vendor perspective, the separation of methodologies is not as mutually exclusive as Figure 1.3 suggests. For example, Hitwise, comScore, and Nielsen//NetRatings also have onsite measurement tools, while Google, Yahoo, and Microsoft have the ability to provide offsite search query data to complement their onsite tools—see, for example, Microsoft Adlab resources (`http://adlab.microsoft.com/AdLab-Resources.aspx`) and Google Insights (`http://www.google.com/insights/search/`).

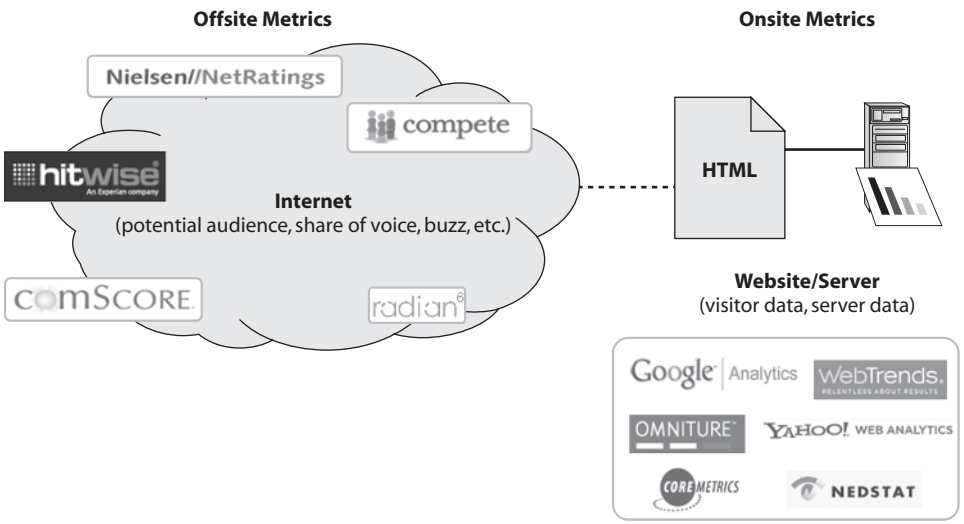

Figure 1.3 Onsite versus offsite web analytics

The differences in methodology between offsite and onsite web measurement tools are significant, and this leads to very different results. Even for basic website numbers, such as the number of visitors a website receives or the total number of pageviews, the values can vary dramatically. This is a constant and exasperating problem for site owners, media buyers, and marketers alike who attempt the futile task of reconciling the metrics. The truth is that metrics obtained with offsite methods cannot be reconciled with those from onsite tools—it's like comparing apples to oranges and often the differences are large, for example, +/-100 percent is not uncommon.

Whenever confronted with this problem from a client, I summarize the differences as follows: Offsite web analytics tools measure your potential website audience. They are the macro tools that allow you to see the bigger picture of how your website compares to others. Onsite web analytics tools measure the actual visitor traffic arriving on your website. They are capable of tracking the engagements and interactions your visitors have, for example, whether they convert to a customer or lead, how they got to that point, or where they dropped out of the process altogether. It is not logical to use one methodology to measure the impact of another. Offsite and onsite analytics should be used to complement each other—not compete against each other.

Google Analytics is an onsite visitor-reporting tool. From here on, when I use the general term *web analytics*, I am referring to onsite measurement tools.

Where to Start

If you have already experienced looking at metrics from pay-per-click advertising campaigns, Google Analytics is simply the widening of that report view to see all referrals and behavior of visitors. If you are new to any kind of web metrics reporting, then the amount of information available can feel overwhelming at first. However, bear with me—this book is intended to guide you through the important aspects of what you need to know in order to be up and running with Google Analytics quickly and efficiently.

If you are implementing web analytics for the first time, then you will want to gain an insight into the initial visitor metrics to ascertain your traffic levels and visitor distribution. Examples of first-level metrics include the following:

- How many daily visitors you receive.
- Your average conversion rate (sales, registration, download, and so on).
- Your top-visited pages.
- The average visit time on site and how often visitors come back.
- The average visit page depth and how this varies by referrer.
- The geographic distribution of visitors and what language setting they are using.
- How "sticky" your pages are: Do visitors stay or simply bounce off (single-page visits)?

If your website has an e-commerce facility, then you will also want to know the following:

- The revenue your site is generating
- Where your customers are coming from
- What your top-selling products are
- The average order value of your top-selling products

These metrics enable you to draw a line in the sand as the starting point from which you can increase your knowledge. Be warned, though, Google Analytics gives you statistics so readily that the habit of checking them can become obsessive! Hence, as you move deeper into your analysis, you will start to ask more complicated questions of your data, for example:

- What is the value of a visitor and how does this vary depending on where they came from?
- What is the value of a web page?
- How do existing customers use the site compared to new visitors?
- How do visits and conversions vary by referrer type or campaign source?
- How does bounce rate vary by page viewed or referring source?
- Is my site engaging with visitors?
- Is my internal site search helping or hindering conversions?
- How many visits and how much time does it take for a visitor to become a customer?

All of these questions can be answered with Google Analytics reports.

Consider Figure 1.4, a typical model that most websites fit. It illustrates that the vast majority of websites have single-figure conversion rates. Why is that, and can it be improved? I can say with certainty that in my 15 years of either developing websites or simply viewing web content for business or pleasure, there has always been room for improvement from a user-experience point of view—including on my own websites. Ultimately, assuming you have a good product or service to offer, the user experience of your visitors will determine the success of your website, and web analytics tools provide the means to investigate this.

Note: The average conversion rate reported by the e-tailing group corresponds closely with that of Forrester Research, July 2007, and the Fireclick Index (`http://index.fireclick.com/fireindex.php?segment=0`).

Amazon is often cited as the benchmark standard for optimizing the conversion of visitors to customers. Their conversion rate was reported as 17.2 percent in January 2009 (source: Nielsen Online via MarketingCharts.com).

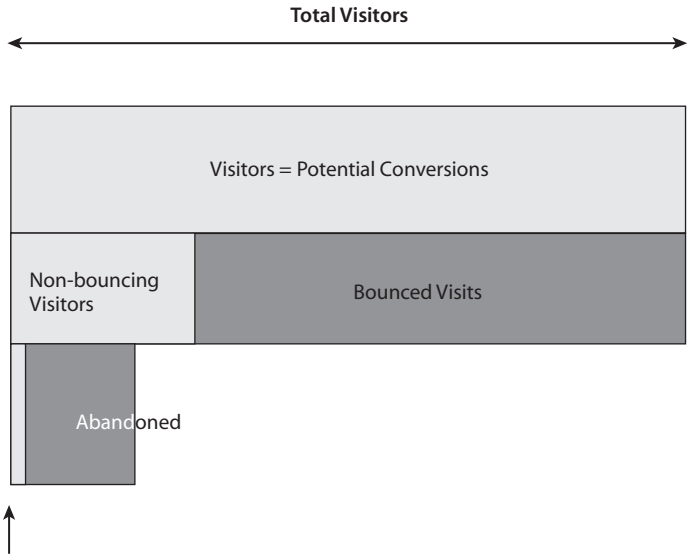

Figure 1.4 U.S. Conversion rates average 2–3 percent 2005–2007.

SOURCE: THE E-TAILING GROUP, APRIL 2007

Keep in mind that web analytics are tools—not ends in themselves. They cannot tell you why visitors behave the way they do or which improvements you should make. For that you need to invest in report analysis, and that means hiring expertise, training existing staff, using the services of an external consultant, or using a combination of all of these. Often, you may need to employ multiple tools to gain an insight as to "why." These include the use of voice-of-customer tools (surveys, customer ratings, and feedback) as well as offsite analytics measurement (blog comments, social network mentions, and sentiment).

Decisions Web Analytics Can Help You Make

Knowledge without action is meaningless. The purpose of web analytics is to give you the knowledge from which you can make informed decisions about changing your online strategy—for the better. So it's important to include change, that is, changing your website or its marketing, as part of your metrics strategy. That sounds easy in theory, though often for large organizations, getting all stakeholders aligned and implementing a change is a project in itself. Therefore, ensure you have that buy-in from an early stage; otherwise, you will rapidly become frustrated at your unrewarded efforts (the process is discussed in Chapter 10, "Focusing on Key Performance Indicators").

In terms of benchmarks, it is important that any organization spend time planning its *key performance indicators (KPIs)*. KPIs provide a distillation of the plethora of website visitor data available to you as clear, actionable information. Simply put, KPIs represent the key factors, specific to your organization, that measure success.

Google Analytics gives you the data from which KPIs are built and in some cases can provide a KPI directly. For example, saying "we had 10,000 visitors this week" is providing a piece of data. A KPI based on this could be "our visitor numbers are up 10 percent month on month"—that is an indicator saying things are looking good. Most KPIs are ratios or percentages that enable you to take action, and the job of an analyst is to build these specific to your organization. I discuss building KPIs in detail in Chapter 10.

Using KPIs, typical decisions you can make include those shown in Table 1.1.

While engaging in this process to improve your website's performance, consider the changes as part of a continuous process—not a one-hit fix. That is, think in terms of the AMAT acronym:

- Acquisition of visitors
- Measurement of performance
- Analysis of trends
- Testing to improve

► **Table 1.1** Typical decisions based on KPIs

Observation	Action
We have a new top-selling product that is delivering 20 percent more by revenue than any other.	Reward the web and marketing teams for a job well done!
The average visits per day from organic search has halved compared to last week.	Call the SEO team. Investigate any changes in content, redirection, or site architecture.
Our last banner campaign cost $5,000 and generated four sales worth $1,000.	Drop the banner campaign.
Online purchases increase by 50 percent if we send a follow-up email to new registered visitors within one week.	Ensure email marketing is an integral part of your business strategy and is tracked within your web analytics tool.
Internal site search is being actively used by 70 percent of visitors. However, most search results are zero, and those that are not generate little revenue.	Call the IT/Web team. Investigate changing your internal search engine to improve the user experience and boost sales.
Visits from an industry forum are driving goal conversions (brochure downloads), but the paid-search visitors are driving transactions.	Call the Marketing team. Acquire more forum visitors to drive branding, reach, and goal conversions. Acquire more paid-search visitors to provide further revenue growth.

The ROI of Web Analytics

Google Analytics is a free data collection and reporting tool. However, implementing, analyzing, interpreting, and making website changes all require a resource outlay at your end. The amount of investment you make in web analytics, therefore, depends on how significant your website is to your overall business.

How Much Should I Invest in This?

A great phrase often heard from Jim Sterne at his eMetrics conference series (`http://www.emetrics.org`) is "What is the ROI of measuring your ROI?" In other words, how much time and effort should you spend on data measurement and analysis, considering that the vast majority of people performing this job role also have other responsibilities, such as webmaster, online marketer, offline marketer, content creator—even running a business. After all, you need to focus on delivering for your visitors and generating revenue or leads from your website.

I like to use the following analogy: analyzing your web analytics reports is similar to visiting the gym. Unless you go regularly, don't waste your time there, because you will only become frustrated at the little impact made from previous sessions. I recommend going to the gym (or performing your preferred form of exercise) at least three times per week. That way, your body/health improves because of the regularity of the exertion (I have spent a lot of time in gyms!). Similarly, regular website analysis is required to provide the insights needed to recommend change. Otherwise, all you have is a hit counter—you will never be able to improve your website because you don't have the insights to do so.

The key to calculating what your web analytics investment should be is understanding the value of your website in monetary terms—either directly as an e-commerce site or indirectly from lead generation or advertisement click-throughs. Marketers are smart, but they are not fortune-tellers. Purchasing clicks and doing nothing to measure their effectiveness is like scattering seeds in the air. Even highly paid experts can be wrong. Moreover, content that works today can become stale tomorrow. Using web analytics, you can ascertain the impact your work has and what that is worth to your organization.

Table 1.2 demonstrates a before-and-after example of what making use of web analytics data can achieve. In this theoretical case, the target was to grow the online conversion rate by 1 percent, using an understanding of visitor acquisition and onsite factors such as checkout funnel analysis, exit points, bounce rates, and engagement metrics. By achieving this increase, the values of total profit, *P*, and ROI, *R*, shown in the last two rows of the table, put the analysis into context—that is, profit will rise by $37,500 and return on investment will quadruple to 50 percent. Note that this is achieved solely by improving the conversion rate of the site—visitor acquisition costs remain the same.

► **Table 1.2** Economic effect of a 1 percent increase in conversion rate

	Symbol	Calculation	Before	After
Visitors	v		100,000	100,000
Cost per visit	c		$1.00	$1.00
Cost of all visits	c_T	$v \times c$	$100,000	$100,000
Conversion rate	r		3%	4%
Conversions	C	$r \times v$	3,000	4,000
Revenue per conversion	V		$75	$75
Total revenue	$\boldsymbol{T}$	$\boldsymbol{V \times C}$	**$225,000**	**$300,000**
Non-marketing profit margin	m		50%	50%
Non-marketing costs	n	$(1\text{-}m) \times T$	$112,500	$150,000
Marketing costs	c_T	v × c	$100,000	$100,000
Total profit	$\boldsymbol{P}$	$\boldsymbol{T - (n + c_T)}$	**$12,500**	**$50,000**
Total marketing ROI	$\boldsymbol{R}$	$\boldsymbol{P / c_T}$	**13%**	**50%**

Note: The Excel spreadsheet of Table 1.2 is available at `http://www.advanced-web-metrics.com/chapter1`.

To calculate how much time you should spend on web analytics in your organization, try a similar calculation; then ask your boss (or yourself) how much time such an increase in revenue buys you. As a guide, I have worked with clients for whom the time from web analytics implementation, initial analysis, forming a hypothesis, testing, interpretation, and presenting the results—that is, the before and after—takes six months (that is unusually fast for an organization, though smaller businesses can be more agile). If you can achieve the same, allow six months' of your salary as your initial investment. Of course, the compounded impact of your work will last much longer, so the actual lifetime value of improvement is always higher than this calculation suggests.

How Web Analytics Helps You Understand Your Web Traffic

As discussed earlier, viewing the 100-plus reports in Google Analytics can at first appear overwhelming—there is simply too much data to consume in one go. Of course, all of this data is relevant, but some of it will be more relevant to you, depending on your business model. Therefore, once you have visitor data coming in and populating your reports, you will likely want to view a smaller subset—the key touch points with

your potential customers. To help you distill visitor information, you can configure Google Analytics to report on goal conversions.

Identifying goals is probably the single most important step of building a website—it enables you to define success. Think of goal conversions as specific, measurable actions that you want your visitors to complete before they leave your website. For example, an obvious goal for an e-commerce site is the completion of a transaction—that is, buying something. However, not all visitors will complete a transaction on their first visit, so another useful e-commerce goal is quantifying the number of people who add an item to the shopping cart whether they complete the purchase or not—in other words, how many begin the shopping process.

Regardless of whether you have an e-commerce website or not, your website has goals. A *goal* is any action or engagement that builds a relationship with your visitors, such as the completion of a feedback form, a subscription request, leaving a comment on a blog post, downloading a PDF whitepaper, viewing a special offers page, or clicking a `mailto:` link. Think of a goal as something more valuable to you than a standard pageview. As you begin this exercise, you will probably realize that you actually have many website goals (defining goals is discussed in Chapter 8, "Best-Practices Configuration Guide").

With goals clearly defined, you simplify the viewing of your visitor data and the forming of a hypothesis. Your goal conversions become your at-a-glance key metrics. For example, knowing instantly how many, and what proportion, of your visitors convert enables you to promptly ascertain the performance of your website and whether you should do something about it or relax and let the computers continue to do the work for you.

Where Web Analytics Fits In

As you might expect, I consider web analytics to be at the center of the universe (well, the digital universe anyhow)—see Figure 1.5. The web is both your research tool and your feedback tool. For example, what are people looking for online and what do they think of your products/services—both before and after purchase? Whether you are actively engaged in digital marketing or not, it is highly likely that potential new customers will be looking online for a company just like yours to help them. Even your existing customers use the Web to find updates, your contact details, support information, or to submit valuable product suggestions. There are even job seekers and investors to consider.

Of course, I am preaching to the choir—why else would you be reading this book? The point I wish to make is that for a *switched-on* organization, your website touches all parts of your business. Hence, your web analytics tool is in a unique position to provide a unified measurement platform that all sides of your business can use—a common currency for measurement, so to speak.

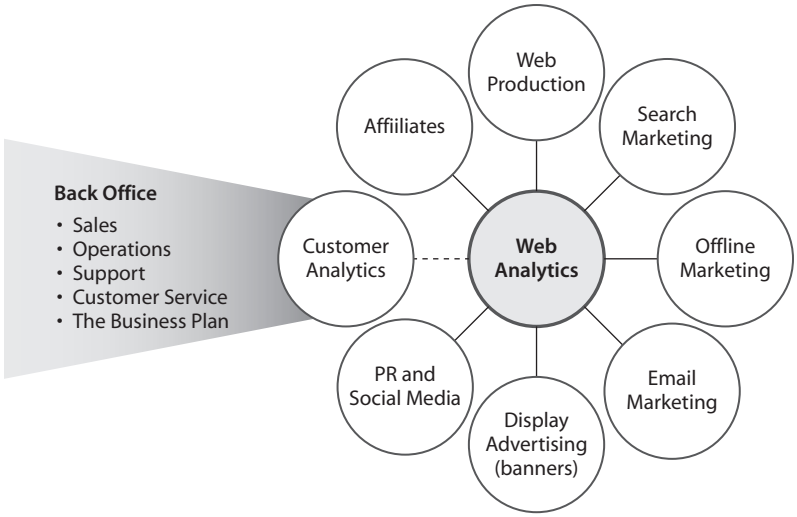

Figure 1.5 Where web analytics fits in an organization

That doesn't mean that you have to force all sides of your business to use only one measurement tool. That would be foolish to attempt. For example, customer analytics (data mining of CRM, or customer relationship management, systems) is a very different field from the almost completely anonymous world of web analytics, hence the dashed line connecting these two in Figure 1.5. Similarly, measuring the buzz and sentiment of your brand on social networks requires the use of offsite web analytics tools, which use very different techniques from onsite web analytics.

Nonetheless, it is still possible (and very desirable) to have a unified web analytics tool that can support all aspects of the business to a greater or lesser extent, while more specialist tools can be used to dig into finer detail if required.

Where to Get Help

Apart from reading this book to expand your knowledge, you can tap into Google itself for a number of self-help resources—in fact, it's the largest free resource of web analytics information available. However, with the huge adoption of Google Analytics (millions of accounts), there are also numerous self-help groups, forums, enthusiasts, and a global network of official Google Analytics Authorized Consultants.

Resources Provided by Google (Free)

- Google Analytics Help—an online searchable manual and reference guide: `http://www.google.com/support/googleanalytics`.
- Google Conversion University—structured learning enabling you to become qualified in Google Analytics. The Google Analytics Individual Qualification (IQ) is proof of implementation proficiency. A step-by-step curriculum is

provided via YouTube video walk-throughs to help you prepare for the test: http://www.conversionuniversity.com.

- YouTube official Google Analytics channel—clear and concise video walk-throughs of features and real-world usage: http://www.youtube.com/user/googleanalytics.
- Official Google Analytics blog—news blog of the latest product announcements, what's new, events, Conversion University, Help Center, and more: http://analytics.blogspot.com.

Non-Google Resources (Free)

- Measuring Success—the official blog and companion site for this book: http://www.advanced-web-metrics.com.
- Google Analytics Help Forum—a threaded message-board system. Members are any Google Analytics users (and potential new users). Google Authorized Analytics consultants regularly participate as well the occasional Google support staff: http://groups.google.com/group/analytics-help.
- Numerous other helpful blogs and forums are listed in Appendix A.

Official Google Analytics Authorized Consultants (Paid)

The Google business model gives you a free product with the option to purchase a tailored professional services package directly from an authorized consultant in your region. If you are investing in web analytics yet cannot afford full-time resources in-house, a global network of third-party Google Analytics Authorized Consultants (GAAC) is available.

GAAC partners are independent of Google, are often experts with multiple vendor tools, have a proven track record in their field, and provide paid-for professional services such as strategic planning, custom installation, onsite or remote training, data analysis, and consultation. The full list of GAACs can be found at http://www.google.com/analytics/support_partner_provided.html.

Summary

In Chapter 1, you have learned the following:

The opportunities and benefits web analytics can bring your organization These include growing your business, improving efficiency, and reducing costs.

The kinds of information you can obtain from analyzing traffic on your site This includes visitor volumes, top referrers, time on site and depth on site to conversion rates, page stickiness, visitor latency, frequency, revenue, and geographic distribution, to name a few.

The kinds of decisions that web analytics can help you with For example, web analytics can help you determine whether blog visitors have a positive impact on your website's reach and conversions, which visitor acquisition channels work best and to what extent these should be increased or decreased, whether site search is worth the investment, or whether overseas visitors would be better served with more localized content.

The ROI of web analytics Knowing how much time and effort to invest in web analytics, without losing site of your objectives, will keep you focused on improving your organization's bottom line.

How web analytics helps you understand your web traffic By focusing metrics on goal-driven web design, you concentrate not only your own efforts but also those of your visitors on clear calls to action. This simplifies the process of forming a hypothesis from observed visitor patterns.

Where web analytics fits in Integrating web analytics into your entire organization helps keep everyone on the same page when it comes to measuring performance.

Where to get help The growth of web analytics adoption over recent years has led to a plethora of resources to turn to, should you wish to explore beyond this book.