

E-Metrics: Strategies for Measuring ROI

by Alan S. Horowitz

E-business can substantially change an entire company's strategic direction and goals, but only when done effectively. An effective Web site is a measured one. That requires understanding what e-metrics are, which ones to use, and how to use them to maximize your return on investment.

When you have finished viewing this program, *E-Metrics: Strategies for Measuring ROI*, you will better understand what are e-metrics, how to effectively use them, and have a toolkit of practical tools you can use to immediately make your Web site more effective.

This program is written for upper-level corporate as well as IT managers. It is extensively researched. Well known experts have been personally contacted. The best research done on the topic has been studied. And we have talked with IT executives who are dealing with these issues on a daily basis. The result, we believe, is a quick, easy-to-grasp, overview of ROI and its role in e-business. We understand that organizations differ and have different goals, and that the e-metrics you use may differ from that of other companies.

Narrator Introduction

Welcome to *E-Metrics: Strategies for Measuring ROI*. I'm XXX and I will be your host today in covering the complex but fascinating -- and necessary -- task of calculating the metrics related to your e-business endeavors.

You will meet today:

John Hoyer. John is the director of marketing at NetGenesis, one of the major companies providing e-metrics solutions. It sells both software and consulting services.

Maryann Murphy: Maryann is a partner at the global consulting firm of PricewaterhouseCoopers, where she focuses on e-metrics and return on investment questions.

Agenda

Today, you will be seeing how e-metrics work and how they can be applied to your business to improve your return on investment.

Among the points we will cover today are:

- . Our terms: What is ROI and what are the various types of e-metrics you can collect and analyze?
- . How ROI for e-business is different than ROI for conventional businesses
- . How companies use e-metrics and ROI differently
- . Benefits of using e-metrics
- . Challenges of using e-metrics
- . Game Plan

1. Have a goal
2. Relate e-metrics to your goals
3. Make your Web site e-metric friendly
4. Your three choices for implementing e-metrics
5. Data collection tips
6. How to analyze the information you collect

. The last part of our presentation a fast and effective Action Plan you can implement now

Our Terms

First, let's define our terms. Among the most widely used and valued measures of success in the Old Economy is return on investment, often called ROI. This concept takes a measure of return, namely net income, and divides it by a measure of investment, notably invested capital. If you earn \$10,000 on a \$100,000 investment, your ROI is 10 percent. E-metrics, also called Web analytics, refers to various statistical measurements, which can range from such raw numbers as page views, to more comprehensive concepts as reach and conversion rates, which we will discuss later.

NetGenesis has compiled a list of e-metrics, which includes:

1. Reach. This is the number of people who have the opportunity to see your advertising message or learn about your site. Reach is important because it indicates the potential of your site to gain the attention of your target audience. If your target audience numbers 1 million and you get two hundred thousand distinct people in a month, your reach is 20 percent of your total universe. Another way to look at reach is if you were to advertise on a site that attracts five million unique users a month and you have a banner ad on that site seen by five hundred thousand viewers, then your reach on that site is 10 percent.

2. Acquisition. Reach is usually thought of as a passive activity, namely the fact that viewers might see your ad. Acquisition is when a viewer takes an overt action that expresses interest in your offering, such as clicking on a banner ad, signing up for a newsletter or seeing an online demo. Your goal here is acquiring a customer. Examples include a customer signing up for a newsletter, taking a survey or filling out a form in return for a white paper.

3. Conversion. Traditional companies consider a customer converted when they buy. But online, conversion may differ depending on your goals. A visitor who provides a personal profile may be considered converted if the goal is to obtain profiles of your site's visitors, for instance. Keep in mind that what makes for a convert varies from business to business. An airline might consider a viewer converted only when they buy, but a company selling personal computers might expect that a viewer will have to visit its site several times, and therefore might have a different metric to measure conversion, such as a viewer who uses a configuration tool to configure a complete system. Those who don't go through the effort to configure a complete system might not be considered converted, while those who do, are.

An article in the magazine, *The Industry Standard*, reports that Tower Records added a navigational feature that significantly changed its conversion rate, which it defines as someone

who makes a purchase. It created a search engine that finds items related to those the viewer asks for, rather than needing an exact name or song title, as was the case previously. The result: The company's conversion rate doubled.

4. Retention. Here, the goal goes beyond getting an initial order, to obtaining repeat orders. You want to retain customers, not just get them. Why? According to a study by the Boston consulting firm, Bain and Co., repeat customers at ten popular online retail sites spent 57 percent more per purchase than first-time customers--and twice as much as those making their very first online purchases. Furthermore, repeat customers were more adventuresome, such as buying new products, as long as they were buying from a company they knew and trusted.

Base your formula for determining retention on your own business model. There are no universal rules. A florist will likely consider a customer who buys one month after their first purchase to be retained. An online grocer might consider define retained customers as those who buy at least weekly, and a seller of stock market information to investors might require daily purchases to consider a customer retained.

5. Loyalty. On the Web, loyalty refers to the frequency users come to a site. As a general rule, the more frequently someone visits your site, the more valuable they are. Like retention, loyalty varies greatly depending on the type of business you are in. When someone makes a major purchase, such as a personal computer or automobile, they may visit your site every day for several weeks, but you wouldn't expect them to do this months on end. Once they make a purchase, they'll stop visiting your site and all similar ones. If you have a site with sports news, you may define loyalty as those who visit daily for months, even years.

6. Abandonment. This is one of those only-in-cyberspace kind of metrics. Imagine a person visiting a supermarket, filling their shopping cart with groceries, approaching a cashier, and then abandoning the cart and leaving the store without making a purchase. It might happen, but not very often. It happens all the time on the Web. Among the metrics you can look at are: the ratio of abandoned carts to completed purchases, a profile of abandoned items versus purchased ones and a profile of a person who abandons a cart versus one who buys. You might also take action to minimize abandonment. As a person fills their cart, you could offer incentives to keep them interested.

7. Duration. Time spent on your site, or time-per-page-view are two ways of looking at duration. As a general rule, it is thought that the more time a user spends on your site, the more valuable is that user. It's like someone who makes a quick dash into a convenience store for a bottle of milk, versus someone who looks around for several minutes. Generally, the more they look, the more they buy.

8. Attrition. Every business has attrition. This is the percentage of your customers who have stopped buying from you and gone elsewhere during a specific period of time. If you start the year with 1,000 customers and by the end of the year only 700 are left, you've had an attrition rate of 30 percent that year. There have been lots of instances among brick and mortar businesses of companies able to attract a lot of customers, but where unable to keep them coming back. The one-time hip restaurant chain, Planet Hollywood, is an example. In the movie business

it's referred to as "legs" -- the ability of a film to keep attracting an audience for weeks, rather than having a strong opening weekend, and then dying quickly on the vine.

9. Churn. Churn measures how much of your customer base rolls over during a given period. This involves dividing the number of customers who drop out by the total number of customers at the end of the period. If, at the end of a time period you have 1,000 customers and during that time period you lost 50 customers, by dividing 50 by 1,000 you find your churn rate was 5 percent.

10. Recency. The more recently someone has visited your Web site, bought from you or otherwise interacted with your company, the more valuable he or she is. According to Matt Cutler and Jim Sterne, writing for NetGenesis, and I quote, "Decades of statistical analysis have shown that customers who have made a purchase recently are more likely to purchase again in the near future." End quote. In fact, in the direct mail business, owners of mailing lists often charge more for their most recently acquired names -- the people who bought from them most recently -- than for those who bought from them some time ago.

11. Frequency. This relates to the number of times a visitor interacts with your company. What's a good frequency or poor one varies between businesses. A car maker would consider someone who buys a new car from it every three years a very good customer. A florist would think that someone who bought from it every three years was a poor customer, but would think highly of someone who bought flowers every three months. But for dry cleaner, someone who comes in every three months isn't a very good customer. A good dry cleaning customer might be someone who comes in every three weeks, while a good customer for a supermarket might be someone who shops every three days.

For expensive purchases, frequency might not even be measured in terms of purchases but rather in terms of site visits within a specific time period. A site that finds a potential customer visits several times during a particular month might know, from experience, this is a good prospect, and might take action to turn that prospect into a paying customer, such as sending an e-mail to that customer or even having a salesperson call them.

12. Monetary value. Before a prospect makes a purchase, money value can only be guessed at, though the guess can be based on e-metrics. Someone who visits your site several times a day for several days in a row is more likely to become a paying customer than a prospect who visits once a month. Of course, as soon as a prospect makes a purchase, an actual monetary value can be placed on the customer. This metric counts the money the customer spent with you.

Traditional ROI Versus E-Business ROI

One of the singular differences between traditional measures of ROI and those relating to e-business, is the new-found emphasis on user behavior. What users are doing on your Web site is often how ROI is measured. Another difference is that e-business ventures are justified not in purely financial ROI terms, such as profits earned on a given investment, but in terms of strategic goals, such as improving customer satisfaction, keeping up with the competition, opening new markets or cutting costs. We will shortly discuss some of the new measurements being used, but

it's worth noting here that there are differences between traditional ROI measurements and those relating to Internet investments.

Why the differences? At its most basic, Internet initiatives are untested, immature and not well understood. As result, traditional ROI analysis is often not possible, and might even be misleading. Take the direct mail industry. It's been around for decades -- remember, Sears Roebuck started as a mail order cataloger in the nineteenth century -- and is well understood, with time-proven metrics. Let's say you want to engage in a direct mail letter marketing campaign to sell a gizmo. Right from the beginning you can predict, with a reasonable degree of accuracy, such costs as renting names, printing the letters, buying postage and hiring a service to handle the chores of stuffing the letters into the envelopes and sorting them for the Post Office. You'll know how many people it will take to conduct the campaign and to fill orders. If you have an established business, you probably will have a good idea of the response rate, which is how many responses you'll get per thousand letters mailed, how much revenue these responses will likely produce and how much net income you'll earn. You'll also be able to fairly accurately guess how much a customer will be worth to you over time, how much business he or she will do with you over the next, say, two or three years. Direct mail is a mature industry with lots of history and proven metrics.

The same cannot be said of e-metrics. Here we deal with such metrics as site stickiness, visitor pathing and shopping cart abandonment, which really have no corollary in the physical world. Much of e-business is new, so it's no surprise that ways to study it are only now being invented, implemented and understood.

Uses of E-Metrics

Companies approach e-metrics and ROI very differently. Rare is the company that doesn't carefully study ROI for its traditional investments, but the same doesn't hold true for their Internet initiatives. Ken Hill, the vice president of IT at giant defense contractor General Dynamics, when asked about the ROI on his Web site, told us, "I don't care. I'm not trying to sell anything, I'm providing information." He does look at such e-metrics as how many hits are received and at what time of the day, to address capacity issues, but his company sells submarines and tanks, and those aren't products to be sold over the Internet. Instead, the purpose of his site is to provide information to suppliers, investors and others. In fact, among the site's most popular features is pictures of the company's products. It seems a fair number of people want pictures of corporate jets, destroyers and submarines.

Contrast that to Garrett Grainger, CIO at Dixon Ticonderoga Company, famous for its Ticonderoga pencils and other office supplies. Grainger set up a Web site where customers, such as Wal-Mart, Staples and mom-and-pop stationery stores, could place orders and track shipments. He watches a variety of metrics, such as usage, but is most concerned with how the site works with other parts of the company. The goal of the site was to cut the company's costs by moving customers to online order and order tracking. Using traditional means to handle orders, where the customer faxes in the order and Dixon Ticonderoga has to hand input the data, costs an average of \$11 per order to handle. Shipment tracking calls from customers cost \$4 apiece, while the incremental costs of handling orders and tracking calls on the Web are

minimal. To date, 30 percent of Web-enabled customers are using the online system and Grainger estimates the site's ROI, which had very low start-up costs, was less than six months.

What we see here is that different companies have different goals and, as a result, their needs for metrics differ greatly. That may help explain why so many companies are not doing much to track metrics and analyze the ROI for their online efforts. A recent study of 50 best-in-class companies by IMT Strategies found that over 70 percent of those surveyed had no ROI measurements in place. In late 2000, *Internetweek* surveyed 300 IT managers if their companies had developed an ROI model to measure the success of their firm's Internet strategies, and only 45 percent said "yes." But that was a 40 percent increase from the year before. A study done in 2000 by IDC found that as many as 50 percent of 650 executives surveyed said they did no ROI analysis on their e-commerce initiatives, with 33 percent saying they did and 16 percent who were not sure.

In fact, in 1999, Information Week in conjunction with Business Week surveyed IT and business executives and found only 17 percent of IT managers and 12 percent of business executives said their companies formally required them to demonstrate the potential payback of their business e-business applications. Our guess is that this trend towards managers having to provide corporate top brass with some measurement of ROI on their e-business investments will continue, and even accelerate. Many of these investments will have to prove their worth or they won't continue to be funded. Upper management wants to know what value an e-business project will deliver over time. CIO Insight magazine just reported that Gartner Inc. found that through the year 2004, only 35 percent of companies planned to install a customer relationship management system -- which involves online technology -- will adequately develop the tools they need to evaluate their new system's potential business payoff.

Many CIOs have, until now, kept away from making careful ROI analyses either because, like Ken Hill of General Dynamics, they really didn't need to, or because getting their company's Internet efforts up and running left them little time to study e-metrics. But with the economy tightening, more and more IT executives are scrutinizing just how beneficial are their Web sites.

Benefits

John Hoye is director of marketing communications at NetGenesis, which provides software and consulting services for e-metrics solutions. John, what would you say are some of the benefits of using e-metrics for ROI analysis?

HOYE It helps in identifying more valuable customers. You can better understand the lifetime value of a customer and how to better cross-sell to that customer. The next stop on the value train is ROI's cross savings. Businesses saving money and improving customer service by transitioning traditional offline customers into online. We've worked with companies like Verizon where they have found that they can get their customers to purchase additional services and get support for Verizon products with their online channels. The result was, they lowered their costs of support and actually improved their overall c-sat rating with customers.

Let me give you an example using L.L. Bean's online catalog for travel apparel and luggage for

purposes of illustration. We can show all the different clicks that the customer would go through. Let's say the user drops out and doesn't pursue the transaction. What does that mean? What should L.L. Bean do the next time they log into the site? Should they remember that information? What might L.L. Bean infer from the transaction? Should they infer nothing because there was no transaction? We might infer from that kind of behavior that the customer is price sensitive. Or was the layout confusing? Did they have product questions that weren't answered, like does this piece of luggage fit under my seat comfortably? Or is the customer just not particularly decisive or are they unsure about buying online? Would better knowledge of shipping costs or free shipping have helped out? These are all behavior things that e-metrics can help you understand. This is the fundamental difference between the offline world and the online world. In the online world, we can find out an awful lot about what the customer is doing. And we can infer things from that behavior. Maybe the next time they log in if we maintain that history of the last time, you can offer an incentive. We can send the message that last time we noticed you decided not to pursue purchasing a travel bag, would a 10 percent discount make a difference or would free shipping?

Among the relevant e-metrics for this is page view duration, how long are they spending at each point in the click stream. We can segment the abandoners, people who leave their shopping carts. Are they high value customers, are they low value? You group them by customer types, by product types, the referring sites, where they came from. If somebody looked at the product and looked at the price and then jumped off your Web site to go do some comparison shopping, that's an indicator that maybe you want to offer a price guarantee. Is there an affinity among the selected abandoned products? Is my product page just not good enough? Have I not answered that one question this segment really wants to understand, which is, Can I carry this bag on and put it in overhead storage? E-metrics can help you answer such questions. **END HOYE**

Challenges

But establishing the e-metrics needed to help you measure your return on investment also has its challenges. We live in an age of information overload. It's typically not a lack of data that hinders effective analysis, but too much. With a Web site, you can measure hits, page views, unique users, time users spend on your site, how many get a shopping cart, how many abandon their shopping cart, how many make a purchase, how many look at one part of your site or another. You can go beyond such raw measurements to more comprehensive e-metrics that include reach, acquisition, conversion and others, which we'll discuss shortly. Making sense of all this data a major challenge. NetGenesis did a study which found three primary factors that prevented e-businesses from extracting maximum value from their e-commerce data, one being an overload of information. The other two factors were a lack of qualified personnel and a lack of technical resources.

In fact, a related challenge is the cost of storing and retrieving all this data. It takes lots of hardware to store all of this and savvy software to sort and retrieve it.

Even establishing standardized definitions for the data you collect is challenging. Do you count a unique visitor as one who comes to your site during a single day, even if that person came several times, or is a unique visitor one who came to your site one or more times during a two-day or three-day period? Or is it someone you count only once, no matter how many times they

return? What exactly is a unique visitor? Creating standard definitions for e-metric terms can be more challenging than many managers might expect.

The Game Plan

To make the most of e-metrics and to best understand the return on investment you are earning from your Internet investments, we have created a step-by-step game plan.

Step 1: Have a goal. It's not enough to say you need e-business because everyone else on your block is doing it. That's not a goal. You need specific goals related to specific business cases pertaining to your situation. These vary dramatically from company to company. A seller of music CDs or books will probably want to generate sales that it otherwise would miss out on. But an airline might not focus on sales -- a Web site is unlikely to generate significant incremental ticket sales -- but to cut costs. Sales made over the Internet eliminate commissions paid to travel agents and cut down the costs of issuing tickets, as many Internet sales are quote ticketless.

Internetweek magazine reports that Verizon Communications, the telco formed by the merger of Bell Atlantic and GTE, measures its e-business investments by focusing on cost savings from doing business-to-consumer and business-to-business online. It looks at savings gained from paperless operations, increased revenue during off-business hours, and improved customer satisfaction measured by standard customer surveys.

Christopher Sowa, senior consultant for ROI at IBM, commented to us that the sole reason for having an e-business project is simply to help enable and drive a corporation's strategy not the other way around. Don't start the e-business initiative with the idea that you're going to reduce procurement expenses by 20 percent as a rule of thumb. Instead, he suggests, ask what your procurement expense rate is now and what should it be based on your industry's performance. Then, perhaps make your goal one that brings your procurement expenses in line with your industry by reducing those expenses by 20 percent. How will you do that? The Web may be one way. This puts the Web at the service of your goal, not the other way around.

Maryann, what advice can you give for establishing e-metrics goals?

MURPHY: Establishing goals is a good place to start because, to be honest with you, many companies did not start there when all of the Web stuff took off. In their rush to get their Web sites up, they may have overlooked the question, What do they want to achieve with their online business?

You need to step back and consider the different routes available. For example, you could decide, all I really want to use the site for is as a branding tool, an effective electronic brochure. Many consumer goods companies follow that route. Or you may want it to be a service center. If the business I'm in is very service intensive, like the mortgage industry, with call centers and high labor costs, my overall objective for my online presence might be to Web-enable the call center and service center. Another objective might be transactions. For example, say I'm in the retail industry and I get a fair amount of sales from my catalogs. I may want the Web to be


another alternative, a means to close transactions. Another objective might be I want it to be a loyalty builder in terms of my customer relationships. The online brokerage industry is an example.


The examples that I just laid out are not necessarily an either or decision, but you certainly need priorities as to what your objectives are. Obviously, the cost associated with the investment are going to be different for someone who merely is trying to create an electronic brochure versus someone who is trying to go to a full online loyalty builder presence. **END MURPHY**


2. Relate the right e-metrics to your goals.

Let's say you want to segment users. You need to identify your best customers. Appropriate e-metrics for analyzing such segmentation are recency, frequency, monetary value and visit duration. The more recently they did business with you, the better the customer they are likely to be, for instance.

Some additional ways of combining various e-metrics, according to NetGenesis, include:

 To measure how quickly users are getting where they want to go, look at the average number of page views to reach preferred content type grouped by user segment.

 To locate the greatest opportunities for increasing conversion, look at page exit rates compared along the optimal purchase path.

 To distinguish affiliates who refer many users from ones who may refer fewer users but bring more valuable ones, look at acquisition cost compared to conversion cost.

Maryann, you divide metrics into several categories, such as customer-oriented, site operations and financial. Could you give us some illustrations relating to these metrics?

MURPHY: One metric we recommend our clients look at is, What percentage of the transactions are new, where you're attracting new customers and what transactions are repeats where you're actually building loyalty and moving customers away from the offline channel to the online channel? Another metric we would track in the customer activity area is online complaints, where customers either fill out a form that's available or through e-mail or they contact the webmaster. We think that these are the richest source of information available to help the company understand either what online processes might be breaking down or even what offline processes might be breaking down.

Going into operating issues, one of the metrics we think people should be tracking is Web site reliability. For example, how many broken links you have. When it says click here and you get an error message, that's a broken link. Another metric under Web site reliability is slow downloads. If there's a lot of graphics, some sites provide immediate downloads and others take a long time. Recent industry statistics tell you that if the download takes more than 10 seconds, visitors will go away from that page.

Under financial, the obvious one is the investment costs and you should make sure they're all inclusive. You have not only technology costs, you have management, marketing and advertising costs, which are often overlooked. Also consider what savings are you gaining by migrating customers to the Web.

We've found that companies in the online world are not yet tracking their returns and exchanges. Or if they are, they're not necessarily reconciling why the number might be different than their offline exchange. For example, if you're a catalog retailer and your returns and exchanges in the online world are higher than what they are in the offline world, the question is Why?, because they shouldn't be.

To study this metric, ask customers to fill out a form which asks why they're returning the item. Analyze what those reasons are. One reason might be that online customers are more impulsive so they buy quicker but they return quicker as well. Or maybe the information about the product online is not as good as the information offline. For a catalog retailer, your online product picture or description might not be as good as those in your catalog. **END MURPHY**

3. Make your Web site e-metric friendly. Be certain that technically your site is able to provide the data you need to create your metrics. Services such as IBM's SurfAid Analytics and NetGenesis' Design for Analysis will help you with this very technical issue.

To give an illustration, we'll use an example from SurfAid Analytics. Let's say you have a business that sells home and garden supplies called Best Home & Garden, and you have instituted an Web-based marketing campaign to promote garden tools that includes a large oval button prominently displayed on your home page that has the copy, "See the latest technology in garden tools." On the left side of your home page you have a list of product categories that is always there. It includes under "tools," a button for "garden."

The recorded traffic flow for the internal marketing link to garden tools is:

www.besthomeandgarden.com —>
www.besthomeandgarden.com/tools/garden.htm

The "garden" link on the left hand portion of the home page to the same garden tools content has a recorded traffic flow of:

www.besthomeandgarden.com —>
www.besthomeandgarden.com/tools/garden.htm

Though users are using two ways to get to the garden tool page, the destination pages are identical in both examples, which means the resulting click information recorded by the server will not allow you to differentiate between the two links -- your internal campaign and your standard link -- and let you know if your campaign is working.

A better designed site might use as a solution an intermediary redirect page inserted between the URLs that is invisible to the user.

While the button on the left remains unchanged, the one for the campaign might have its traffic flow directed in the following way:

www.besthomeandgarden.com —>
www.besthomeandgarden.com/campaign/gardentools.htm —>
www.besthomeandgarden.com/tools/garden.htm

Though the destination remains the same, the intermediary page now lets you know how many times the campaign button was clicked without there being confusion with any other button.

This is an example of making your Web site compliant with the metrics you are seeking.

4. Know your choices for implementing e-metrics. There are three: You can write your own software, buy an existing product or rely on a consulting firm.

Writing your own should only be tried by technically sophisticated companies. This is not for the faint-of-heart. If your e-metrics are really quite specific to your business or company so that no existing product really addresses your needs nor does any consulting firm have much related experience, then perhaps you should consider writing your own software. Another plausible scenario is that your needs are quite obvious and direct, and it would not be hard for you to write a program that addresses all your needs.

Another approach is to implement the products already developed by third-party vendors.. This approach has the advantage of using a proven software product, quick implementation and, likely, lower costs. The downside to using a third-party product is that it may not fit your needs and its ability to be customized may be limited, though many of these products have a fair amount of customization ability built into them.

The third option is to use a consulting firm who has experience in implementing ROI programs for e-business initiative. Software and consulting are often sold in combination, such as offered by NetGenesis. Other consulting-oriented firms are PricewaterhouseCoopers, IBM, Stern Stewart, Meta Group, Gartner and Accenture. An experienced consultant can help design your e-metrics program and customize software to your needs, though the costs of such services may be more than the other options. There are also application service providers who will help you set up your program and run it. IBM does this.

5. Collect the data you need. There are various tools on the market to help you. These have such capabilities as monitoring your network's performance to identify any choke points that discourage users, monitoring your transactions for speed and availability, and monitoring users' online experiences. Like any complex software, these packages take some skill to implement and even more skill if you have atypical requirements which necessitate a good deal of customization.

Vendors of e-metric analytical software include: NetGenesis, Accrue Software, Watchfire, Mercury Interactive, BMC Software, TopicalNet, Exodus, Sane Solutions, e-Satisfy.com, WebCriteria, Keynote, WebPartner, Media Metrix, SAS Institute, NetIQ, Microsoft and

Vividence.

Products such as these can provide a variety of reports you use for analysis. Many have compile dozen of different reports. Here are some sample reports:

- . Paths visitors take. A report can tell you which paths are highly visited. Use this data to better target your marketing.
- . Origins and destinations of your visitors. These reports tell you sites where visitors came from and where they went when they left your site. If you see many come to your site from a competitor and go from your site to another competitor, you may be attracting a lot of comparison shoppers.
- . Site analysis. This report might include analysis of how long it takes the typical user to navigate a site's pages, and load times -- how long it takes for pages to download.
- . ROI report. This shows what it cost to acquire a customer based on the cost of advertising and the response the advertising generated.
- . Preferences of frequent visitors. Where on your site do frequent visitors frequent? This report will tell you.
- . The time between customers' first and second visits. You may want this report because it can help you understand how well you bring visitors back. This, in turn, influences the likelihood they will engage in a transaction with you.
- . Where customers came from and how much business they did with you over time. This report let's you know the long-term value of various referring sites and the effectiveness of the marketing campaign you've done on them.

In addition, you'll need the in-house expertise to implement, maintain and effectively use these products, or hire resellers or consultants to help you. Your IT department will have to beef up its capabilities to take on the task of analyzing the e-metrics continually produced by your Web sites. That might not be an easy task. The shortage of skilled IT professionals is well known, and for this type of work, the shortage seems likely to be more acute than in many IT areas. Gartner, a research company, predicts that by 2005, enterprises will need three times as many professionals on their analytic staffs as they need today, and that the demand for analytic talent today outweighs supply by at least two to one.

6. Know how to analyze your e-metrics. Of course, data by itself is useless. It must be transformed from raw metrics to information of value. Here's an analytical example from SurfAid Analytics. The raw data is page views. The potential customer's route through the Web site's buying routine has nine steps once the user has indicated he or she is interested in making a purchase by placing an item in the shopping cart. The steps are:

	Page Views
1. Place item in shopping cart	52,343
2. View shopping cart	48,532
3. Continue shopping (not applicable to everyone)	13,000
4. Begin checkout process	35,008
5. Check item availability	30,823
6. Enter shipping address/information	29,376
7. Enter billing address/information	22,874
8. Final order confirmation	14,555

9. Thank you

12,003

Let's start our analysis at the checkout process, step 4. Note, 35,008 began the checkout process but only 12,003 viewed the screen thanking them for their purchase. You can conclude 23,005 or 66 percent abandoned the shopping cart and 34 percent were converted into customers.

4,185 (35,008 minus the 30,823 who checked item availability) abandoned their carts right after beginning the check out process. Why? Did a required user ID and password turn them off? Can they use the user ID and password right after creating it? Are repeat shoppers required to log in with a user ID or password that they forgot? You need to consider these reasons and perhaps other explanations for customer behavior.

Subtract the 30,823 who checked item availability with the 29,376 who entered their shipping information and you find that 1,447 dropped out. Why? Were the item or items they wanted unavailable? What does this tell you. Perhaps you need to stock more of these items. Or, on the other hand, maybe these items are prominently displayed. If so, they shouldn't be because you can't fulfill when someone orders them. In this case, you not only risk losing the sale of the out-of-stock item, you may find that if a customer has several items in their shopping cart and finds one is not available, he or she may abandon the whole cart.

John, can you think of an analysis of a metric that might lead to site design changes?

HOYE: Sure. Let's look at stickiness, which is the total amount of time spent viewing all pages divided by the number of unique users. The more sticky your site, the more time people spend at it. You might want someone to stay long, but in an e-commerce area, stickiness could be viewed as a very negative thing, especially if shopping cart abandonment is high. It might mean people are having to view lots of pages, get frustrated and eventually leave. So we could look at the pathing, the clickstream, how the user is moving along the site to make sure that they're moving along the most optimal path and not getting bogged down. Make sure that your site design reflects the way the customer wants to engage in a transaction with you. This can actually improve performance. When I say performance, I mean the financial performance of the Web site. **END HOYE**

Maryann, can you describe the general process you recommend for analyzing e-metrics?

MURPHY: I think that number one, start with your strategic goal. Reaffirm what it is. Second, define what metrics you need to track in order to evaluate whether or not you're successful in meeting that strategic goal. Once you define the metrics, you then have to consider, How am I going to measure those metrics? And you need to ensure there's consistency of methodology in how you measure the metrics in the online world versus the offline world. Then you need measure them consistently and periodically. Each metric will have its different time horizon in terms of how often you need to measure it. To the extent that there are similar types of metrics in the offline world as in the online one, you need to reconcile them. An example is returns and exchanges. Where you may have higher rates of returns and exchanges offline than online, that's an increased cost. You have ask, Why do I have these increased costs?

And then you need to continually update the metrics that you measure. You add new metrics and eliminate old ones as your strategic goals change over time, which chances are they will. **END MURPHY**

Conclusion

You now have a good idea of what e-metrics are, the issues faced in implementing them and ways to use them. E-metrics are what you use to understand your return on investment. The days when most CIOs could ignore ROI are coming to an end. Depending on the purpose of the Web site, most sites now need to justify themselves. Get a handle on your e-metrics and you gain a profound understanding of the performance of your Web site, ways to improve it and, ultimately, a deeper appreciation of how the Web can enhance the performance of your entire company.

Action Plan

1. Write down your company's strategic goals
2. Analyze which of those goals can be enhanced by use of the Web
3. Design your Web site to maximize its impact on those goals
4. Use e-metrics to design, direct and improve the performance of your Web site
5. Choose a vendor who can help you set up an effective e-metrics program
6. Constantly monitor your e-metrics. Be sure you have in-house professionals who can implement and analyze e-metrics, or use an outside vendor.
7. Make e-metrics an important part of your IT department's responsibilities.