Converting The Believers

How to Turn Website Visitors into Buyers

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I. Introduction: Who Are The Believers?

Creating Believers

Marketing is about creating believers, and online marketing is no different. In the U.S. alone, companies spent over $21 Billion last year driving visitors to their websites and doing their best to turn doubters into believers. For all of the money spent leading believers to the virtual door, though, only a fraction of those companies spent the time and money necessary to convert those believers into buyers. Creating believers and then ignoring your sales process is like driving customers to your grand opening only to leave the store locked when they arrive. This book is designed to help you turn believers into buyers and maximize your online marketing ROI.

Three Questions

This book is an entry-level dive into three areas: (1) Website analytics, (2) Usability, and (3) Testing. The analytics section asks the question: "Are you winning?" Simply put, if you want to improve something, you have to be able to measure it. The usability section asks: "What do people want?" By understanding the basics of how website visitors think and act, you'll go a long way towards figuring out how to convert believers into buyers. Finally, the testing section answers the question: "What really works?" Don't guess whether changes to your website will improve sales – test those changes and know for sure. Together, these three questions form a structured, scientific approach to online sales improvement.

II. Web Analytics: Are You Winning?

What Are Web Analytics?

Putting aside the technical stuff for just a minute, web analytics are all about answering one question: "Are you winning?" Although some of us love numbers, the reason we analyze data about our websites is to figure out how those sites are performing. Are we getting more visitors? Are they staying longer? Are they buying more products? These are all important questions about performance and, ultimately, about the success of your business. This e-book leads off with analytics for one very important reason: if you can't measure something, you can't tell if you're getting better at it.
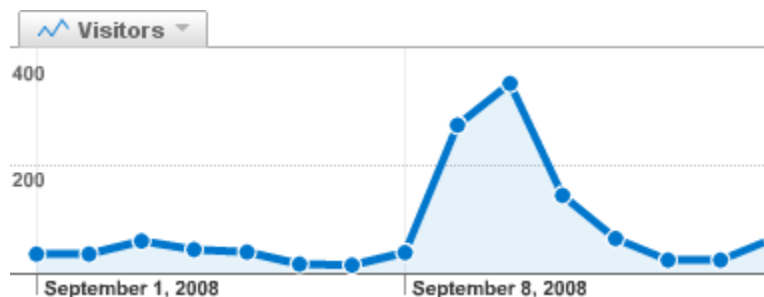
Practically speaking, the goal of web analytics software as a tool is to reduce mountains of visitor data into meaningful statistics and graphs like the one above. Regardless of which software you use, this section is designed to give you a quick primer on the basic concepts and terminology of web analytics.

Log-based Analytics

When you visit a website, that visit is broken up into requests to the computer housing that site, and each of those requests creates a log entry that looks something like this:

```
2008-09-25 00:16:33 W3SVC9999 200.100.10.1 GET /index.php param=12345&print=1
80 - 199.99.9.1 HTTP/1.0 Mozilla/4.0+(compatible;+MSIE+7.0;+Windows+NT+5.1) -
www.usereffect.com 200 0 0 9301 371 203
```

Clear as mud, right? If you're a techie, you might be able to read that log entry, but even for the technically-inclined, reading the thousands or even millions of log entries that an average website generates each day is hardly the way you'd want to spend a Friday night. So, analytics software was developed to parse these log files and turn them into useful data and reports.

If you have a website, you probably have access to some sort of log-based analytics program that will provide you with basic information about your site's activity. Your web hosting company should be able to give you more details.

Script-based Analytics

In the past couple of years, programs such as Google Analytics have been created that run as scripts, snippets of code which execute on the computer of the person visiting your website. Script-based analytics allow somewhat richer data to be collected, but also have some drawbacks, such as the fact that not all website visitors can run these scripts (meaning data from those visitors is lost). On the other hand, script-based analytics programs can be set up by anyone who has direct access to the website, and can in some cases be easier and cheaper to implement than log-based analytics. Choosing an analytics package can be a big decision, and the relative advantages of log-based and script-based analytics are beyond the scope of this book, but it's important to be aware of both types of analytics software.

Metrics: A Brief History

A "metric" is just a fancy word for a tool or unit for measuring something (as in the "metric system"). In website analytics, metrics are the individual statistics and performance indicators that have evolved as visitor data and analyses have matured. There are still many misconceptions about these metrics, so what follows is an overview of some of the most common metrics and their development over time.

The Hits Keep on Coming

The grandfather of all analytics is the *Hit*, and you still hear people say things like "How many hits does your website get?" Hits go back to the early days of the web logs like the sample

shown above – every request to a website, whether it's for the contents of a page, image, audio clip, or video, generates a log entry and is technically considered a hit. Unfortunately, this isn't particularly useful. Consider the example below:

Let's say someone visits 3 pages on your website. Each of these pages also has some images – in the example above, the pages have 1, 3, and 2 images, respectively. Each of these elements (pages plus images) counts as a hit, yielding 9 hits total. A page loaded with images, video, etc. would generate a lot more hits than one with nothing but text, but that doesn't necessarily make that page more important. Unfortunately, quoting hits caught on because the raw numbers look impressive even for small websites. Also, be aware that some people may use the term "hits" generically, to refer to a variety of metrics. When discussing analytics with others, especially on your own team, make sure you're speaking the same language.

How's The View?

From the diagram above, it's pretty easy to see the next logical step. What if we just counted the web pages themselves? This is often called a *Page View* or sometimes just a *View*. It's pretty self-explanatory, but here's another diagram, for comparison's sake:

Now Open to Visitors

Of course, all of these pages still only equate to one person visiting your website, so the next natural step is to count only those individual *Visitors*:

Beyond visitors, it's common to measure *Unique Visitors*. If a person visits your site, and then comes back 10 minutes later, most analytics packages will count that person as 2 visitors but only 1 unique visitor. Be aware that different analytics packages measure unique visitors in slightly different ways.

Which Metric Is Best?

It's a loaded question, but looking at these numbers, which one do you like the best? Like many people in the early days of web analytics, you might say hits, because let's face it: 9 sounds a lot better than 3 or 1. Ultimately, though, this isn't about how big the numbers are – it's about getting relevant answers to meaningful questions. Hits may sound good, but knowing how many unique visitors came to your site is usually a lot more useful. Of course, these three basic metrics are just to get you started. There are many more metrics in common use, including: *Pages/Visitor*, *Time on Site*, *Bounce Rate*, *New Visitors* vs. *Return Visitors*, etc. Each one answers its own unique questions.

Ad Lingo: Impressions, CTR & CPC

Since web analytics are often used to monitor the performance of online advertising, here are a few bits of ad lingo you might find useful. Every time your ad appears on a site, that appearance is called an *Impression*. If a website visitor clicks on that add, they generate a *Click-through* and the ratio of click-throughs to impressions is called your *Click-Through Rate* or *CTR*. Much of

modern online advertising is priced based on clicks (not impressions) and pricing is usually represented by the ad's *Cost Per Click* or *CPC*.

How Much Is Good Enough?

With any metric, it's tempting to start thinking in terms of absolutes and what your numbers "should" be, and too many people get caught up in checking their analytics obsessively. Many factors affect website success and any given number is going to contain a bit of noise, so the important thing is to focus on improvement. Track relevant numbers over time, and try to think less in terms of "good" and "bad" and more in terms of the story that those numbers are telling you. Ask questions, experiment, and drive your analytics process – don't let it drive you.

Conversion: The Gold Standard

Knowing how many people came to your website is important, but from a business standpoint, there's a much more important question: "Are your visitors taking action?" In the industry, we call that *Conversion*, the process of turning visitors into buyers. This is expressed as a metric called the *Conversion Rate*, which is simply the ratio of goals reached to visitors (expressed as a percentage) for any given time period. In other words, your Conversion Rate is the percentage of visitors who took action. The general formula looks something like this:

$$\frac{Goals}{Visitors} \times 100\% = Conversion\ Rate$$

Although e-commerce sites often measure purchases as the ultimate end-result, conversion can refer to any meaningful goal, such as a purchase, a request for proposal, a document download, or even a step along the path to a larger goal (sometimes called a *Micro Conversion*).

Let's take a look at a concrete example. Say that, after a month of measurement, you record 10,000 visitors and 250 of them reach the goal you set:

$$\frac{250}{10,000} \times 100\% = 2.5\% \text{ CR}$$

In this case, your conversion rate (abbreviated as *CR*) would be 2.5%. People often quote an average e-commerce conversion rate of 2-3%, but this number can vary wildly across sites and is relative to the goal you're measuring. The most important thing is to figure out where you stand today and begin to work on improvement.

Conversion is part of a larger (and growing) group of metrics sometimes called *Key Performance Indicators* or *KPIs*. The goal of KPIs is to measure results, especially results with economic impact. Many KPIs go beyond conversion and look at data such as the average purchase price per customer or the lifetime value of that customer across multiple visits. These are advanced topics, but illustrate just how deep you can go when measuring performance.

III. Usability: What Do People Want?

What Is Usability?

Now that you're measuring your website's performance, it's time to focus on improvement. That's where usability comes into play. Usability is, simply put, the science of making technology work better for people. Website usability is the art and science of building sites that are efficient, easy to use, meet visitors' expectations, and ultimately help people accomplish their goals. When your visitors accomplish their goals, you win. Your job is to make their job easier. This section will cover some of the basics of how people think and act on the web, and how to use that knowledge effectively.

Habits & Expectations

It's a bit cliché, but people are, without a doubt, creatures of habit. Whether it's our brain wiring, our common experiences, or our technology-driven habits, website visitors share some common behaviors and have developed certain expectations. Tap into those habits, and you'll convert more buyers. Violate those expectations, and you'll lose customers.

The F-shaped Gaze Pattern

One of the tools usability researchers use is eye-tracking – literally tracking in real-time where people's eyes move when they look at a website. One consistent finding is that people view pages in a roughly "F"-shaped pattern, scanning along the top and left and then progressively skimming more as they move down the page. Consider a typical web-page:

Given our pre-internet habit of reading top-to-bottom and left-to-right (in the Western world), it only made sense for websites to follow a similar pattern. Many sites were built with branding and identification on the top, navigation on the left, and the most important content first. This tendency, combined with our broader reading habits, created and reinforced the "F"-shaped pattern. Of course, not all websites have to look alike and design has certainly evolved over time, but the farther you deviate from this pattern, the more likely you are to violate the expectations of your visitors. For example, putting navigation on the top or right may be fine, but would you ever put your company logo at the bottom of the page or lead with the least important content and save the biggest headlines for later? Of course not – you want to put the most important elements where people expect them to be.

The Humble Blue Link

If anything has come to symbolize the worldwide web, it's the ubiquitous blue hyperlink. Text-based links are still a vital part of the internet and the way we connect information, but as design has evolved, we've gotten a lot more creative with the way links look and act. This is fine, to a point, but the underlined, blue link has become such a common feature that straying too far from it stylistically tends to confuse visitors. Consider the example below:

> Here's a paragraph of linked text. What if the link were just underlined? How about only blue? Does this text look like a link? How about this text?

Technically, you can choose any style you like for links, but as you can see, the farther you get away from the standard blue, underlined link, the harder it is for people to interpret your intent.

Setting Your Own Standards

As soon as a visitor enters your website, you also begin to set your own expectations, by deciding where to place important content and navigation, what text styles to use for headers and emphasis, etc. As important as it is to be aware of web standards, make sure you don't violate your own standards. Internal consistency is very important, and if your site uses inconsistent presentation and styles, you'll probably confuse and irritate people. Don't make

people think too hard or have to figure out your website every time they land on a new page – they'll eventually just give up.

Patience Is Not A Virtue…

Not when it comes to website visitors, anyway. The speed and convenience of the internet has given consumers an itchy trigger finger, and they'll click away from a website as fast as you can say "Welcome," for a hundred different reasons. You can't force people to stay on your site, but there are a few things you can do (or avoid) to encourage and reward patience.

Say It in 8 Seconds

There's a rule-of-thumb in usability called the 8-second rule, which basically says that you have 8 seconds to capture a visitor's interest. Although the actual amount of time varies with the site and visitor (their personality, motivation, trust level, etc.), the core concept is critical – can your visitors understand your website in just a few seconds? Specifically, can those visitors quickly answer the core questions of (1) Who you are, (2) What you do, and (3) What you offer? A strong, descriptive tagline can answer one or more of those questions. Also consider reducing copy, especially on your home-page, and using short, descriptive headers and sub-headers. This will draw attention to important features and make your website easier to scan.

Mind The Fold

Many websites take up more vertical space than a single screen and get cut off, requiring the visitor to scroll down. Designers call that cut-off point the *Fold*. Although it's fine by current design standards to have pages that scroll vertically, make sure that any critical content, especially on your home-page, is above the fold. Visitors aren't going to scroll unless they think they're in the right place, and an impatient visitor (in other words, every visitor) is only going to bother looking at what they can see on that first screen.

In the example above, a new visitor to your site may miss that last paragraph, so make sure it's not critical to getting their attention. It's important to lead with your best material. Keep in mind that the fold is a bit theoretical; web pages will cut off at different places on different screens. Your analytics can tell you more about which screen resolutions your visitors use the most.

Orient Your Visitors

It used to be a safe bet that a new visitor would land on your home-page. These days, though, people and search engines are more likely to link directly to interesting content and land deeper in your site. As they do, it's becoming more important to orient those visitors quickly, creating the internet equivalent of the "You Are Here" arrow on the mall directory. Consider the fictional web-page below, a product page from Al's Widgets:

There are a number of cues on this page that a visitor can use to orient themselves:

(1) **Branding –** The company logo and site name quickly lets people know where they are.

(2) **Navigation –** Active, tab-based navigation separates sections of the site. By highlighting the active "Products" tab, visitors know what section they're currently in.

(3) **Breadcrumbs –** Navigational links, often called *Breadcrumbs*, give the visitor a simple map of where they are in the site, and allow them to easily backtrack.

(4) **Headers –** A clear, bold header tells visitors what the current page is about.

(5) **Images –** A product image quickly communicates the purpose of this page.

As you can see, there are many ways to orient a visitor. The key is to clearly communicate a sense of place and purpose and to allow visitors to easily connect to desired content.

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Keep It Simple

It's easy to fall into the trap of thinking that your site is easy to use, but new visitors don't know what you know, and odds are pretty good that you're unintentionally doing something to confuse them. Here are some ways to simplify and make your potential buyers' lives easier.

Improve Readability

Readability is still a major problem for many websites. We have a bad habit of trying to cram as much information as we can on a page, and as sites evolve and everyone wants their say, the problem usually only gets worse. Unfortunately, the more information you pack on to a page, the less likely anyone is to notice each individual piece, and if finding the important bits is too tricky, visitors will probably just abandon your site completely. Key things to watch for are: (1) Font size, (2) Line spacing, and (3) Contrast.

> This is an 11-point, standard font. It's pretty easy to read for most people.
>
> Here's an 8-point font. Can you read this one? Now imagine that the entire document looked this way.
>
> How about a 7-point font? What if you were reading this sentence on your laptop or, worse yet, your mobile phone?

It's pretty easy to see how font size quickly affects readability, but even fonts that we think of as "normal" can be hard to read for older visitors or people browsing on smaller platforms, such as a modern laptop or internet-enabled mobile phone.

> Here's that first sentence again, but with the line spacing set way too low: Readability is still a major problem on many websites – we have a bad habit of trying to cram as much information as we can on a page, and as sites evolve and everyone wants their say, the problem usually only gets worse.

Another common mistake is to set line spacing too low, squeezing text together. Similarly, we squeeze information by pushing it too close to the margins and removing whitespace. Sure, you can fit more on the page, but imagine reading an entire page that looked like the box above.

White on black	Black on white	Gray on gray	Pink on purple

The third common readability issue is contrast. White-on-black text may seem a little boring, but people are used to it, and high-contrast text is easy to read. Black on white is popular among some designers, but with a large amount of text, it's noticeably more difficult for visitors. The other two examples are just to prove a point, but variations of gray on gray are becoming more and more popular and can really create a problem for many visitors.

Focus on What's Important

We all have elements on our website that we think are especially important and need to stand out. Unfortunately, especially in a corporate environment, by the time everyone gets their say, we often end up with pages that emphasize everything. Have you ever seen a paragraph on the web like this?

> **NEW!!!** Best product <u>ever released</u>!! You *can't miss* this *exciting new product*. **FREE SHIPPING** available now! **First 100 new customers** get **<u>20% off</u>**! Hurry and <u>*order online*</u> now – **supplies are limited!!!**

Emphasis is fine, and by themselves all of these elements (coloring, bolding, italicizing, capitalizing, underlining, etc.) are valid, but together they only overwhelm and confuse people, and, in some cases, hurt your credibility. It's the nature of the human brain that, by drawing attention to everything, you effectively draw attention to nothing.

Remove Roadblocks

Most people would never knowingly put up obstacles for potential customers, but it's inevitable that other priorities, such as marketing and security, will create unintended roadblocks for visitors. Often, marketing issues come down to copy – either writing too much of it or focusing it on corporate priorities instead of what customers want to hear. Another common conflict area for marketing and usability is in forms and data collection. Marketing people tend to like long forms that collect a lot of information. Visitors like short forms and don't want to tell you anything that they don't think you need to know. There's often a need for balance – some information is necessary – but, before you start asking a lot of personal or demographic questions, make sure that data is worth potentially scaring off customers, especially if you're collecting it during the purchase process.

Another common problem area is when security requirements create roadblocks that begin to affect legitimate users. For example, many sites add layers of security to block spam. One common example is CAPTCHA, the word puzzles some sites use to block automated visitors. Even if you've never heard of a CAPTCHA, you've probably seen one in action:

This recent example from reCAPTCHA demonstrates just how tricky the task can be (the words are "SHOW" and "unpaid"). As these tasks are forced to become more sophisticated to fight the latest spamming techniques, they also become more difficult for human users. Unfortunately,

no matter what the justification is, making a visitor jump through hoops isn't going to help sales. In some cases, security concerns may make CAPTCHA and similar precautions unavoidable, but use them as a last resort. Don't simply pass your problems along to your customers.

Usability vs. Accessibility

Website usability tends to see sites from the point of view of the "average" user (a somewhat mythical ideal), but many sites fail to consider the needs of visitors with special requirements, such as the elderly and visually impaired. Accessibility focuses on creating sites that meet a wide variety of needs and are as inclusive as possible. Many aspects of good usability, such as improving readability and removing obstacles to visitors, also create more accessible sites, but if you serve a wide audience or a niche with special requirements, do your homework and make sure that your site meets the unique needs of your potential customers.

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Build Confidence

Good usability sets the stage for effective persuasion, and one of the keys to persuading potential customers is building their trust and confidence. Although persuasion is beyond the scope of this book, confidence and trust are so important to online sales that they deserve at least a brief discussion.

Establish Your Identity

We all assume that our customers know who we are – after all, we know who we are, so why shouldn't they? The problem on the web is that establishing a presence is so easy (relative to setting up a brick-and-mortar retail store, for example) that people tend to mistrust unknown entities. Beyond the basics, such as a professional design and solid logo and brand, don't forget to establish your company by putting time into your "About" page and linking that information to the real-world wherever possible (pictures of your building and employees help make you seem more real, for example). Also, don't rely too heavily on online communications – even if people never use them, it's important to have an address and phone number, if only to build confidence that you're a legitimate organization.

Reassure Customers

During the online conversion process, there are many potential points of assurance, decision points where you need to address your visitors' lingering doubts. Make sure your visitors understand that your site is secure, that you value and protect their privacy, and that you can be contacted if they have any problems or concerns. Also, consider any advantages that you could make visitors aware of earlier in the conversion process. For example, promoting free shipping not only alleviates a potential customer concern (high shipping costs) but is a competitive advantage. Similarly, don't hide surprises, such as additional fees or minimum orders. Saving conditions like these until the last minute may not only scare off customers, it may destroy trust, reducing future visits and creating negative word-of-mouth.

IV. Testing: What Really Works?

What Is Website Testing?

What if, instead of guessing whether a change to your website would improve sales, you could know for sure? What if you could avoid all of those arguments within your company about what might work and get concrete data from real customers? That's what website testing is all about: presenting your visitors with options and letting them decide what they like best. Although past visitor behavior and general usability principles are a strong foundation, every website and industry is somewhat unique, and only your audience can really tell you what works.

The Basics of Testing

It's easy to get scared off by testing, but the basics are pretty simple, and with today's tools (some of them free), even handling the math isn't as tricky as it used to be. This section covers the major types of testing and the logic behind why we use them.

Sequential Testing

Let's say that you have two versions of a website ("A" and "B") and you want to determine which one is more effective. The simplest test might look something like this:
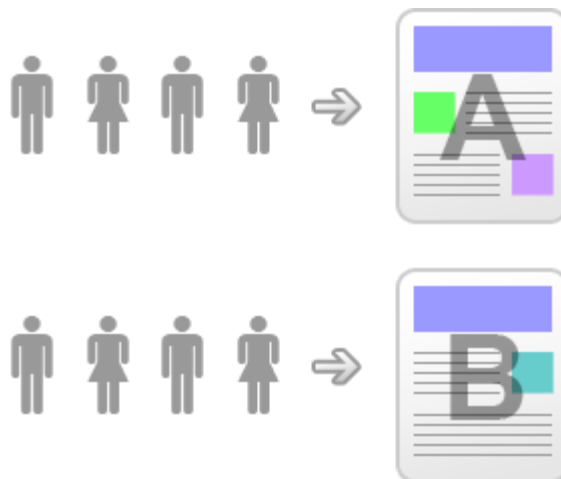
Essentially, you'll run version A past a certain number of visitors, measure the results, then run version B past the same number of visitors, and compare those results. This, in a nutshell, is sequential testing. Sounds simple enough, right?

Let's say you run a test and find that version B performs 20% better. That seems like great news, but, unfortunately, there's a major flaw in sequential testing. What if, in addition to the changes you were testing, something happened during those two time periods to make A and B appear different? In other words, what if the improvement in version B had nothing to do with the changes you made? For example, what if one of the two test periods contained a major holiday or important news in your industry that affected everyone's sales (either positively or negatively)? With sequential testing, there's no good way to tell what happened because of your changes and what happened due to timing and outside influences.

Split (A/B) Testing

So, how do we get around this problem? One solution is to do a split test (sometimes called an "A/B test"), which looks something like this:

Instead of running Version A and then Version B, we run both sites at the same time, splitting the visitors between the two versions. The diagram is a bit over-simplified: ideally, we'd alternate visitors, routing them randomly to one version or the other as they arrive.

Multivariate Testing

Ideally, instead of simply testing two completely different versions of a website, you'd test individual changes to some aspects of that site. Those variables might include the font size, button color, button shape, a snippet of copy, etc., each of which could have many different options. A split-test essentially tests only one variable at a time. Multivariate testing allows you to test more than one variable simultaneously. It sounds a little intimidating, so let's take a look at a simple example, testing changes on a buy button:
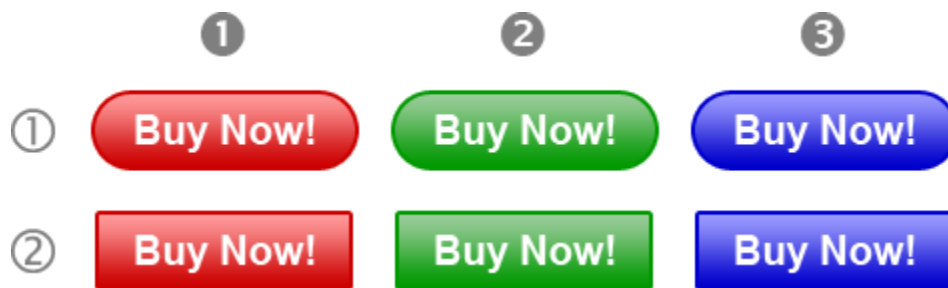

In this case, we'd be testing two variables: Color and Shape. Color has three values: ❶ Red, ❷ Green, and ❸ Blue. Shape has two values: ① Round and ② Square. We call this a 3x2 test, and it has six possible combinations. In a multivariate test, you would test each of these six combinations, splitting website visitors evenly among them.

Understanding Interactions

Why not just run two tests, one on the button's shape and one on its color? That way, you would only have to split your visitors up five ways (3+2) instead of six (3x2), potentially saving you some testing time. You could take this approach, but there's an important concept in testing design that you should be aware of called an *Interaction*. The classic example of an interaction comes out of pharmaceutical research. Let's say that you have Drug A and Drug B, each created to lower high cholesterol. Drugs A and B are both effective individually, but what happens when you combine them? The combination might be twice as effective, it might be no more effective than either A or B, or if things go really poorly, it might kill you. The interaction of the two drugs isn't the same as simply adding up their separate effects.

Now, odds are pretty good that your website testing isn't going to kill anyone, but interactions can have unpredictable negative effects. Say, for example, that you want to test the effects of background color and text color. You run a test with three background colors and find that your visitors prefer a gray background. Then, you run a separate test with three font colors, and find a preference for gray text. From these separate results, you might logically conclude that gray-on-gray is your best option, proceed to create a site that's virtually unreadable, and end up seeing your sales plummet.
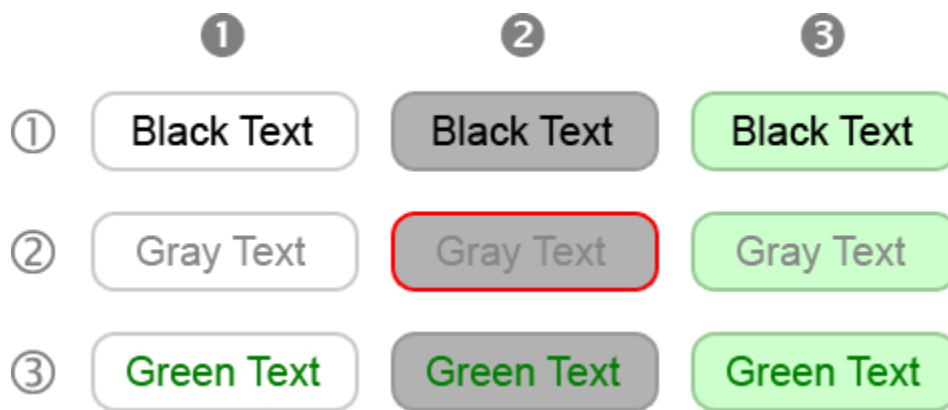
If you had run a multivariate test like the one above instead, you would have been able to measure the effects of the color combinations and have easily seen that the gray-on-gray version interacted in a negative way. Whenever you suspect some relationship between the variables you're testing, a multivariate approach is probably best. As you can see from the diagram above, sometimes just mapping out the options (before you even run a test) can put your own common sense to work and prevent bad choices.

What Should You Test?

Now that you understand some of the basics of website testing, it's time to think about the kind of changes you might want to test on your own website. Although there are tools to help make testing easier, only your experience and judgment (hopefully informed by past data) can build tests that have the potential to improve conversion.

Think Like A Scientist

A website test is essentially an experiment, and you should approach it like a scientist. Ideally, your tests will develop out of your website analytics or visitor observations and will address potential problem areas. In addition, you should have a hypothesis about the outcome – developing an informed opinion will help you learn more from the final results. Theoretically, you can test whatever you like, but throwing versions of your website at the wall to see what sticks can not only waste a lot of time but may subject your visitors to changes that hurt your website in the short-term. Remember, website tests are running live on real customers, so you need to think carefully about what you'll be testing.

Big Changes vs. Small Changes

What scope of changes should you be testing? There's a bit of a debate in testing circles over this issue, but it boils down to two valid points. If you test big changes, you're more likely to see big impact. If you test small changes, you're more likely to understand later how and why those changes made a difference. Take the example below:

If Version A is our original site, Version B represents a minor change (adding an image), whereas Version C represents multiple changes. Visitors are very likely to notice the difference between A and C, but if C wins, it will be hard to tell why. Version B's effects are easy to isolate, but the relatively minor change might not matter to most visitors.

So, what's the right approach for you? Ultimately, it comes down to a question of risk. If your current site is performing poorly, you might want to risk big changes. Testing takes time, and you can't spend months trying out incremental adjustments. On the other hand, if your site is relatively successful or you rely heavily on its current revenue, a slower, more evolutionary

approach probably makes sense. The multivariate approach discussed above can be a happy middle ground, allowing you to test multiple changes but still understand their individual affects. If you can break apart big changes into separate components (variables), then your situation will probably benefit from a multivariate approach.

High-Impact Changes

Of course, whether your changes are "big" or "small" in a purely physical sense, they should be high impact. Test critical decision points and action areas, such as shopping cart buttons, which may have a small footprint on your site but represent key steps in the conversion process. Don't get into the habit of testing just for testing's sake – find out where you're losing visitors and use testing to tackle your worst performing areas.

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A Few Statistics

Many people don't like math, and modern testing software will handle most of the math for you, but it's critically important to understand just a couple of the basic statistical principles behind website testing. This is a very brief discussion of sampling, error and confidence intervals.
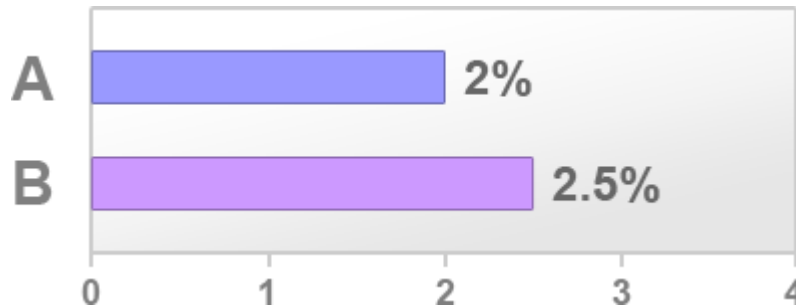
Sample Size

In any test, you're only going to be able to try out your changes on a small percentage of your visitors, also known as a *Sample*. Let's consider an extreme example: Say you show Version A of a website to Bob and Version B to Sally. Bob buys everything he possibly can online and Sally never shops online. No matter what you test, Bob is just more likely to convert than Sally. To overcome this inherent personality difference, your sample has to be large enough to make sure that each test version is seen by a diverse group of people. Unfortunately, there's no easy rule for exactly how many people you need to test, but testing software and online calculators can help you determine the appropriate numbers.

Margin of Error

Let's say that you run a split-test and find that Version A produces 2% conversion, while Version B produces 2.5% conversion. Version B represents a 25% improvement, as shown below:

Sounds pretty good, but what does this really mean? Going back to the discussion of sample size, do we know anything about how large these two groups were or how different the people within them were? Statistics is all about sorting out whether this difference is real or just a numerical accident, and one of the measurements we need to determine this is the statistical error. We see this all the time in survey results that list the margin of error, such as ±3%. Let's take a second look at our example, but now let's imagine that each version has an error of ±1%:
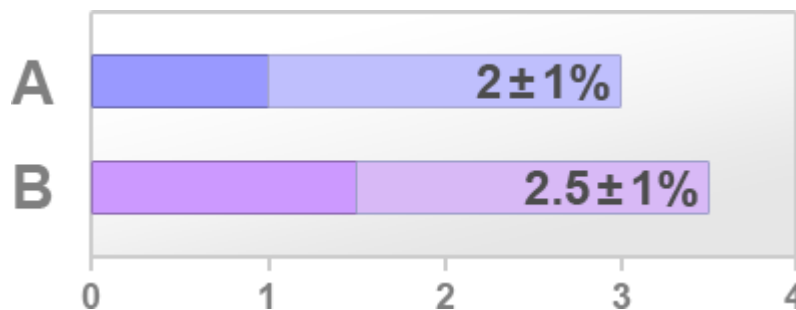
The lighter-colored areas represent the possible conversion values that Versions A and B might have actually produced. As you can see, the overlap between them is considerable, and what looks like a big difference may just be the result of noise in the system or measurement errors. These errors are generally reduced by collecting more data. Testing software will use the proper statistics to help you figure out when your test is strong enough to overcome these potential errors and reach a meaningful conclusion.

Confidence Intervals

A related concept is the *Confidence Interval*. Statisticians express measurements at a certain level of confidence, which really just means that the measurements are strong enough to overcome any errors or noise. The confidence level also tells you when it's safe to end a test. The most common confidence interval is 95%, which simply means that we have a 95% chance that our test result is really within the margin of error that we think it is. In other words, even our margin of error has a margin of error. Without worrying too much about it, the key is that you want to be relatively confident (95%, in fact) that you're making good decisions based on your test data. Fortunately, testing software will do most of that work for you.

Testing Tools

Unfortunately, how to implement testing comes down to the particular software that you're going to use, but the good news is that these tools are now much more accessible and, in some cases, even free to use. If you're new to testing, you can't go wrong with Google Website Optimizer, a web-based system to easily set up, run, and evaluate both split and multivariate tests. Google Website Optimizer requires some technical knowledge, but can be implemented fairly easily with minor intrusion on your website, and armed with knowledge from this section, you should be able to set up and interpret a decent website test. See the Recommended Resources section (Chapter VII) for a link to Google Website Optimizer and some related resources, including a do-it-yourself split-test calculator.

V. Summary: What's In It for Me?

Why Testing Matters

Sometimes, talking about testing and the math behind it starts to sound a little academic. It's important to remember that testing is ultimately a process to improve conversion and sales. By testing changes, you can quickly avoid the wrong choices, adopt the right choices, and know exactly how much impact those choices have. Let's make it more specific. Say you have online sales of $50K/month. You test three versions of your website (A/B/C), and find that Version B results in a 5% drop in conversion over the original (Version A) while Version C yields a 10% increase in conversion. In real dollars, implementing Version B would've cost you $30K/year; Version C will make you $60K/year. Testing just made a $90,000 difference to your bottom line.

Convert Your Believers

It's not enough to create believers. Marketing drives believers to the door, but your online sales process puts the product in their hands and walks them to the checkout counter. Analytics, Usability, and Testing form a system of ongoing process improvement that can systematically and continuously convert more of your believers into buyers. Don't worry about all of the details or the perfect approach – figure out where you're at today, listen to your visitors, and start making the changes necessary to convert those visitors into buyers.

VI. Author Information

About The Author

Dr. Peter J. Meyers (AKA "Dr. Pete") is the President of User Effect, a former start-up executive, cognitive psychologist, and lifelong programmer. For the past 11 years, Dr. Pete has worked directly with business owners and executives to understand their goals, get to know their customers, and improve their online return on investment.

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About User Effect

User Effect is a consulting firm specializing in strategic usability for commercial websites. Put simply, we help businesses convert believers into buyers. We achieve results through a combination of usability best practices, analytics and testing, and understanding the full life-cycle of the consumer, including search engine optimization and online marketing. Contact us for more information about our strategic usability services.

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VII. Recommended Resources

Recommended Books

Always Be Testing: The Complete Guide to Google Website Optimizer, by Bryan Eisenberg &
     John Quarto-vonTivadar (2008)

Don't Make Me Think: A Common Sense Approach to Web Usability, Steve Krug (2005)

Homepage Usability: 50 Websites Deconstructed, Jakob Nielsen & Marie Tahir (2001)

Influence: The Psychology of Persuasion, Robert Cialdini (2006)

Web Analytics: An Hour A Day, Avinash Kaushik (2007)

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Recommended Tools

Google Analytics – Google's free script-based analytics tool

Google Website Optimizer – Google's free web-based split and multivariate testing software

Split Test Calculator – User Effect's simple online calculator for your own split (A/B) tests

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Recommended Blogs

Future Now's Marketing Optimization Blog

Get Elastic: The Ecommerce Blog

Occam's Razor: Web Analytics Blog

User Effect: Strategic Website Usability