

One day, while walking down the street, a man encounters a talking dog. Flabbergasted, the man dashes off to tell his friend. As they both rush back to find the talking dog, his friend asks, “A talking dog? What did it say?” The man replies, “Who cares, it’s a talking dog!”

A few years ago, the Web was just like the talking dog. It was so new, so fascinating, that its content did not matter. Anybody could create a Web site, and it was fun just to be there. People put Web cameras on coffee makers, on fish tanks, and sometimes even on themselves. People created elaborate Web sites devoted to arcane obsessions, from cult television shows to fetishes too bizarre to put in print.

But then the first commercial Web sites appeared, and for better or worse, the Web took its first few steps growing up.

Since then, designers have explored literally thousands of ideas in an effort to understand and make use of this new medium. The Web is no longer a rambunctious toddler, touching and tasting and trying out every new thing within reach. The Web is maturing, and the problems faced by today’s Web developers are the same ones faced by any industry as it matures: More and more people are starting to care about factors like value, convenience, and ease of use over the novelty of the technology itself.

Customer-centered design deals with this change in priorities. In this chapter you will discover the thinking behind customer-centered design, and learn how to apply it to your projects using the principles, processes, and patterns we present.

## The Evolution of Web Design

## 1.1

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**The First Generation** • The mantra was “build it, and they will come.” Talented individuals and large crews alike built Web sites. These creative and visionary people managed everything from business planning to graphic design and software development in this new medium. But, having built the site, they could say only that they had a Web site. They could not say how their site was performing from the customer’s perspective, and what relationship the site had to the business’s bottom line.

**The Second Generation** • The mantra was “advertise that you sell it online, and they will come.” Start-ups invested large amounts of capital into expensive ads to drive visitors to their e-commerce sites. Even established companies put “.com” on their letterhead and ran costly campaigns to let people know they hadn’t been left behind.

Unfortunately, this strategy did not work because Web design was complex and still misunderstood. *For the first time, organizations were building interactive computer interfaces to their products and services.* This proved to be a difficult task to execute well. In fact, building a Web site too quickly made its probability of being both compelling and easy to use practically zero.

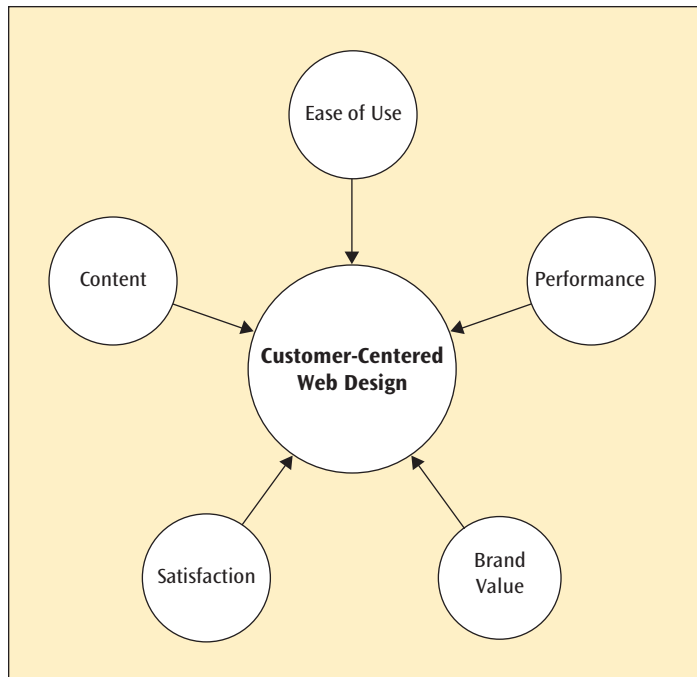
**The Third Generation** • Today the focus has shifted to constructing powerful Web sites that provide real value and deliver a positive customer experience. When visitors consistently give a Web site high marks for content, ease of use, performance, trustworthiness, and overall satisfaction, we call it a **customer-centered Web site**.

We use the term *customer* rather than *user* for three reasons. First, only two industries refer to their customers as *users*: drug dealers and computer companies. We hope to help break this connection between the two. Second, and more importantly, the term *customer* evokes the fact that successful Web sites account for issues that go beyond ease of use and satisfaction, such as trustworthiness, brand value, and even how well a company’s traditional interactions with the customer work, such as telephone-based customer service or the return of merchandise.

Finally, taking a cue from Beyer and Holtzblatt’s *Contextual Design*, we use *customer* to refer to anyone who uses or *depends* on the site. Customers can be administrators, partners, managers, and producers, among others. To manage the site, many of these individuals will see a completely different interface. We chose the term *customer* because it is more expansive

**Figure 1.1**

The key issues driving customer-centered Web design



1.1

than *user*, referring to all of these individuals and their myriad needs. Consideration of these additional factors is what differentiates customer-centered design from other design approaches (see Figure 1.1).

The challenge to be customer centered exists for all enterprises: large multinationals, government agencies, internal corporate services, small businesses, and nonprofit organizations, to name just a few. General Motors, for example, must manage its customer experience for more than 300 end-customer, supplier, and distributor Web sites. Government sites, with responsibilities to help the citizenry and other agencies, need to satisfy “customer” requirements as well. Intranet applications that optimize a corporation’s workforce must provide positive experiences to employee “customers.”

## **1.2 The Importance of Customer-Centered Design**

Over the years we have learned that the criteria for building customer-centered Web sites are based on providing a positive experience for all

customers, whether those customers are there to find information, to be part of a community, to purchase items, or to be entertained. This focus is called **customer-centered design**. Customer-centered design increases the value of Web sites through better design and evaluation. It is about how you empathize with customers, understanding their needs, the tools and technologies they use, and their social and organizational context. It is about how you use this understanding to shape your designs, and then test those designs to ensure that the customers' needs are met.

Why go to all this trouble? What will happen if you don't? Suppose your site overruns its budget or schedule. Management could pull the plug before it is completed. Or what if your Web site is finished but turns out to be too hard to learn or use? Customers may visit your site once and never return.

With customer-centered design, you do the work up front to ensure that the Web site has the features that customers need, by determining and planning for the most important features and by making certain that those features are built in a way that customers will understand. This method actually takes less time and money to implement in the long run. In short, customer-centered design helps you build the right Web site and build the Web site right!

Here is an example underscoring the importance of customer-centered design. A few years ago, IBM found that its Web site was not working well. Quick analysis revealed that the search feature was the most used function. The site was so confusing that IBM's customers could not figure out how to find what they wanted. IBM also discovered that the help feature was the second most popular function. Because the search feature was ineffective, many people went to the help pages to find assistance. Paying close attention to customer needs, IBM redesigned the site from the ground up to be more consistent in its navigation. A week after launching the redesigned site, reliance on the search and help features dropped dramatically and online sales rose 400 percent.

This is just one of many stories highlighting the increasing importance of good design. But does good Web design really affect the bottom line? You bet! Web sites founded on solid fundamentals and extensive customer research can make the difference between success and failure. A clear, easy-to-use, and customer-centered Web site can help garner better reviews and ratings, reduce the number of mistakes made by customers, trim the time it takes to find things, and increase overall customer satisfaction. Furthermore, customers who really like a Web site's content and

quality of service are more likely to tell their family, friends, and coworkers, thereby increasing the number of potential customers. A great example of this result is Google, which has become the dominant search site with little or no advertising. It simply works better than most other search sites, and customers tell their friends about it.

There is also a strong correlation between increased satisfaction and increased profits for commercial Web sites. Underscoring this point, NetRaker's research shows that increasing customer satisfaction by just 5 percent can lead to a 25 percent or greater increase in revenues. This increase comes from customers who can find products and services more easily—customers who will return in the future—as well as the corresponding reduction in support costs. The decrease in support costs comes from a lower number of phone calls, e-mails, and instant messages to help desks, as well as a lower number of returns on products.

The stakes are higher now than ever before. Commercial Web sites that are not relevant, fast, trustworthy, satisfying, and easy to use will find it difficult to attract new customers and retain existing ones, especially if competitors are only a click away.

### Providing Tangible Value

Yahoo! is one of the top Web sites out there today, and it's likely to remain near the top for the foreseeable future. Why? Is it because it has slick graphic design? Hardly. Yahoo!'s homepage only has around ten graphical images, and most of its other pages have less than a dozen. Yahoo! is always pointed out as the poster child of boring interfaces. Is it because Yahoo! uses the latest browser technologies? You would actually be hard-pressed to find Web pages on Yahoo! that use Macromedia Flash plug-ins or other bleeding-edge technologies. (In fact, the games section was the only part of Yahoo! we could find that used technology beyond HTML and basic JavaScript.)

So why is Yahoo! so popular? It's pretty simple actually: Yahoo! provides quality services that are useful, fast to download, and easy to use. One of the reasons it is such a popular Web site is that interaction design and usability research are integral parts of Yahoo!'s development process. Yahoo! discovers its customer needs through field studies, interviews, and usability evaluations, and then it tailors its designs to match customer needs.

People will leave your Web site if they

- Are frustrated
- Think it is too much effort to navigate the site
- Think you don't have the product or service they are looking for
- Get big surprises that they don't like
- Feel it takes too long to load

*You cannot afford to abandon a single customer.*

Even if your site does not have direct competitors, as is the case with educational institutions and corporate intranets, it can benefit from being customer centered. Simple, clean, and well-designed Web sites can cut down on wasted time for customers, reduce Web site maintenance costs for clients, and improve overall satisfaction.

## **The First Steps We Took to Unify Design, Usability, and Marketing**

### **1.3**

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In 1997 we noticed that a few companies had dramatically jumped ahead of the competition and were now leaders on the Web. These companies had publicly stated and acted on making the customer experience their top priority, and they raised the bar for everyone.

While we were actively helping clients develop sites in an ever more competitive environment, we realized we had to move beyond the traditional boundaries of usability, market research, and software design. It was not an easy task, because our clients had committed to these means at varying levels, in different parts of the organization that usually did not talk to one another.

Drawing on our experience in design, consulting, marketing, communications, and human-computer interface research, we evaluated our clients' Web sites on many levels. We discovered that although a customer focus existed, often it was not reflected on the Web sites. We also discovered that some clients were not improving the customer experience on their Web sites at all. This was not surprising, considering that these companies did not have a clear Web strategy. It was not uncommon to see a client's Web design team with an inadequate budget and little authority to integrate operations with the rest of the company.

Sometimes our clients were simply too busy trying to stay afloat to care about getting a full wind in their sails. One Web business we studied thought that it was doing very well with its health-related news, infor-

mation, and products. It was receiving thousands of Web-based orders per week. It spent heavily on advertising to drive people to its site, and as advertising spending increased, so did sales. Our team evaluated the ease of use of its site, doing some customer research over a short period of time (later we will show you how you can run studies like this yourself). We looked at many factors, from first impression, to ease of use, to overall satisfaction.

We found some surprising results that led us to important conclusions. The developers of the site had done a great job of creating a powerful first impression. All the customers in our research panel liked the site, thought it looked easy to use, and said it appeared to have relevant content.

But then in the next step we asked the same customers to use the site to carry out a realistic task: finding products for the common cold. Only 30 percent of the customers could find products for colds, or for any other medical condition at all. This research suggested that about 70 percent of customers who came to the site to solve particular health problems could not find what they were looking for. This result provided a direct causal link between human–computer interface problems and lost revenue. The cost of dissatisfied customers abandoning this site could have reached into the millions of dollars over the course of a year.

Our experience with the health site is not uncommon. The bottom line is that poorly designed Web sites frustrate people, fritter away customer loyalty, and waste everyone’s time.

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## 1.4 Why We Prefer Customer-Centered Design

One way to explain the value of customer-centered design is to compare it to other design styles. In this section we look at four styles centering in turn on the user, the company, technology, and the designer.

**User-Centered Design** • Customer-centered design is most closely related to what is known as **user-centered design**, an effort pioneered in the 1980s for engineering useful and usable computer systems. Customer-centered design builds on user-centered design, adding concerns that go beyond ease of use and satisfaction. In particular, it also focuses on the fusion of marketing issues with usability issues.

On the Web it is much easier to get an audience than by traditional means, but you also want to convert Web site visitors to customers and then keep them coming back. Unlike someone selling shrink-wrapped

software to a customer who buys before using it, you want to convince Web site visitors to become customers and make their first use enjoyable—all at the same time. Pay special attention to business goals, marketing goals, usability goals, and customer experience goals. These goals often conflict with each other, and you will be able to find a balance among them only if you are aware of them all at once. These issues are much more intertwined and harder to design for on the Web than for shrink-wrapped software.

**Company-Centered Design** • A style that used to be quite popular among Fortune 500 companies is what we call **company-centered design**. Here the needs and interests of the company dominate the structure and content of the Web site. The fatal flaw is that what companies think should be on a Web site is not necessarily what customers need or want. You have probably seen Web sites that are organized by internal corporate structure, with sparse information about the products and services they offer. These kinds of sites are derisively termed **brochureware**. They contain little useful information and completely ignore the unique capabilities of the Web as a medium. Brochureware sites are acceptable only if they are a short-term first step toward more sophisticated and more useful sites.

Another example of company-centered design is the use of jargon known only to those in the business. One of our friends recently wanted to buy a digital camera. As an amateur, he wanted a camera that was easy to use, one that would help him take clear pictures. But instead, most of the sites bombarded him with terms like *CCDs*, *FireWire*, *PC card slots*, and *uncompressed TIFF mode*. The fact that he didn't know what these terms meant embarrassed him. He was put off and confused. The companies had made the wrong assumption about their customers' knowledge. None of them answered the simple question of which camera was best for amateurs. This is an example of why company-centered design is almost always a bad style.

**Technology-Centered Design** • Sites constructed on the basis of **technology-centered design** are often built with little up-front research about business needs and customer needs—just a lot of hacking and caffeine. We have all seen these kinds of Web sites—the ones overloaded with animation, audio, and streaming banners. The problem with this approach is that it often results in amateurish Web sites that are not useful, usable, or desirable. Technology-centered Web sites were pervasive in the early



days of the Web, but thankfully they are becoming less common as the Web matures.

**Designer-Centered Design • Designer-centered design** (also known as **ego-centered** design) is still popular in certain circles. One designer was quoted in a popular industry rag as saying, “What the client sometimes doesn’t understand is the less they talk to us, the better it is. We know what’s best.” This is exactly what we mean.

Don’t get us wrong, though. Some design teams have deep-seated creative urges that are matched only by their incredible technical ability. They can create sites that are cool, edgy, and loaded with the latest technologies. In some cases, this is exactly the image a company wants to project. Unfortunately, these kinds of sites can also be slow to download, as well as hard to use, and they may not work in all Web browsers. Designer-centered design is fine for some art Web sites, but not for e-commerce or informational sites whose livelihood depends on a large number of repeat visitors.

In company-centered design, designers give no thought to why people would visit the company’s Web site and what they would want to do

### Top Ten Signs That Things Are Going Badly

1. “Our Web site is intuitive and user-friendly.”
2. “We need to start doing some usability tests before our launch next month.”
3. “We can use [XML / SOAP / insert other buzzword technology] to fix that.”
4. “If you stop and think about how the interface works for a second, it makes complete sense.”
5. “How can our customers be so stupid? It’s so obvious!”
6. “Well, they should RTFM!”<sup>1</sup>
7. “We don’t need to do any user testing. I’m a user, and I find it easy to use.”
8. “We’ll just put an ‘Under Construction’ sign there.”
9. “Shrink the fonts more so that we can put more content at the top.”
10. “We need a splash screen.”

<sup>1</sup> Read The *Fantastic* Manual.

there. In technology-centered design, technology is an end rather than a means of accomplishing an end. In designer-centered design, the needs of other people are placed beneath the creative and expressive needs of the design team. Contrast these styles with customer-centered design, which emphasizes customers and their tasks above all, and sees technology as a tool that can empower people.

Company-centered, technology-centered, and designer-centered design styles were understandable in the early days of the Web when designers were still finding their way. In the old worldview, few people really considered what customers wanted. Now, successful and easy-to-use sites like amazon.com, yahoo.com, and ebay.com are designed from the ground up to meet the needs of their customers. In the new worldview, your careful consideration of customers, as reflected in your Web site, will help you achieve long-lasting success.

## Nine Myths of Customer-Centered Design

## 1.5

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Why do so many organizations not embrace customer-centered design? We are here to dispel the myths that keep companies from moving forward with customer-centered design.

**Myth 1: Good Design Is Just Common Sense** • If Web site design is just common sense, why are there so many bad Web sites? Thinking that design is just common sense leads us to think that we know what everyone needs and wants. Time and time again, however, this notion has been shown to be incorrect.

Web design teams always have to keep in mind that they are not the customers. They cannot always predict the way customers will think or act. In addition, they know too much about how the Web site works. They cannot look at it in the same way that customers will. They could avoid this problem by observing and talking to customers and getting feedback from them as often as possible.

**Myth 2: Only Experts Create Good Designs** • Although experts might apply customer-centered design techniques more quickly or conduct more rigorous analyses, anyone can understand and use these techniques. Anyone can create a good design if they devote themselves to it.

**Myth 3: Web Interfaces Can Be Redesigned Right before Launch** • Sentiments like “we’ll spend a few days working on our site’s interface” or

“we’ll solve the interface problems after all the programming is done” are common. However, these ideas assume that the Web site has the right features and that those features are being built correctly. These are two very risky assumptions that can be costly to fix, especially if the Web site is near completion. Customer-centered design helps minimize these risks by getting constant feedback on designs so that the Web site will be in good condition the day it is launched.

**Myth 4: Good Design Takes Too Long and Costs Too Much** • Customer-centered design does add some up-front costs because you will be talking to customers, creating prototypes, getting feedback on those prototypes, and so on. However, customer-centered design can considerably reduce **back-end costs**—that is, costs incurred as a result of responding to customer dissatisfaction, through help desk calls, returned purchases, general Web site maintenance, and so on. Evaluate the trade-off between spending more time and money at the start of your project and losing revenue over the long run.

Customer-centered design can even reduce the total development time and cost because it focuses on finding problems in the early stages of design when they are still easy to repair, preventing them from ever causing serious problems that are time-consuming and expensive to fix. We know that your team will not always have the time and budget to do everything possible, so we try to lay out the trade-offs among the different actions you could take to improve your site. This book discusses many effective approaches you can use to test your assumptions and to test your Web site, to make sure that it is a winner in the long run.

**Myth 5: Good Design Is Just Cool Graphics** • An aesthetically pleasing design is an important part of any Web site because it helps communicate how to use a particular interface and it conveys a certain impression. However, graphics are only one part of the larger picture of what to communicate and how. Customer-centered design takes into account what customers want, what they understand, what tasks they perform, and the context in which they do things. Cool graphics by themselves do not address these issues.

**Myth 6: Web Interface Guidelines Will Guide You to Good Designs** • Web interface guidelines are a good checklist to ensure that the final design has no obvious minor problems. Guidelines address only how a Web site is implemented, however. They do not address what features a Web site

should have, the overall organization of the Web site, or the flow between individual Web pages. In contrast, the design patterns described in this book are generative. Using them will help you create solutions to your design problems. Furthermore, guidelines do not address the trade-offs of Web site development. Customer-centered principles, processes, and patterns, on the other hand, do take these issues into account.

**Myth 7: Customers Can Always Rely on Documentation and Help** • Documentation and help are important; however, customers are unlikely to be patient enough to sift through a great deal of documentation just to use a Web site. Documentation and help are the last resorts of a frustrated customer.

Think about it this way: When was the last time you read a help page? Did you wish the design team had gone the extra mile in the first place to make using the site straightforward so that you would not need to read the help? Customer-centered design provides tools to see the world from your customers' eyes, to help you understand their worldview, and then to design Web sites to fit their needs.

**Myth 8: Market Research Takes Care of Understanding All Customer Needs** • Although market research is invaluable for helping to understand customer attitudes and intentions, it does not suffice when it comes to understanding customer behavior. Be careful also about using market research to create lists of customer feature requests. Implementing a laundry list of new features might satisfy customers who have asked for a particular feature, but all these features are more likely to get in the way of offering most of your customers a successful customer experience.

What customers *say* in a market research study can be useful as well, but when it comes to interfaces, what they *do* is critical. That's why market research must be balanced with direct observation. A customer-centered design team uses a variety of techniques—from observations to interviews—to elicit true customer needs and focus on the areas that will be most important for most customers.

**Myth 9: Quality Assurance Groups Make Sure That Web Sites Work Well** • Software testing is key to ensuring that you are not launching a buggy, poorly performing site. Although quality assurance is important, its purpose and focus are different from those of customer-centered design. Software testing is often technology driven rather than customer driven. Expert testers try to make sure the product does what the specification

says it should. This is different from seeing what happens with real customers working on real problems.

More importantly, Web sites often are tested only *after* being built. At that point it is too late to make major changes. Software testing can help you find and fix only coding mistakes, not major design mistakes. Customer-centered design, in contrast, focuses on quality from the very start—before anyone has written a line of code.

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## 1.6 Applying Customer-Centered Design

Over time we have evaluated the best practices to use when designing powerful, compelling, and useful interactive Web sites. We realize that designers need concepts they can quickly integrate into their Web site design practices, as well as a process that can be applied universally, from entertainment sites to e-commerce sites, from sites for informal clubs to sites for large corporations. On the basis of our experiences, research, and discussions with other Web designers, we have refined our ideas on customer-centered design into three parts: principles, processes, and patterns.

**Principles** • These high-level concepts guide the entire design process and help you stay focused. For example, as we state in one of our key principles, you must acquire a deep understanding of your customers' needs. Another major principle is to design your Web site iteratively, moving from rough cuts to refined prototypes, before creating the production Web site. These principles, described in Chapters 3—Knowing Your Customers: Principles and Techniques and 4—Involving Customers with Iterative Design, can be applied to any design problem and are the foundation for the patterns we describe in the second half of the book.

**Processes** • This is how you put the principles into practice. In Chapter 5—Processes for Developing Customer-Centered Sites, we describe our Web site development process, a guide that explains the major steps and milestones for developing a Web site. We also provide a collection of how-to tips, such as how to conduct a focus group, how to run a survey, and how to do a usability test (most of these tips are included in the appendixes). If your firm has similar processes, use Chapter 5 to update your process so that the key principles of customer-centered design are supported.

**Patterns** • Design patterns solve recurring design problems, so you can use pattern solutions to design your sites without reinventing the wheel. Patterns are a **language**, a common vocabulary that allows you and your team to articulate an infinite variety of Web designs.

These patterns let you focus your energies on solving new problems, rather than problems that have been worked out hundreds of times before. But design patterns do not make cookie-cutter sites—far from it. Because no two businesses are the same, we created the design patterns for you to tailor to your particular business needs. This book shows you how to create an overall solution that works for your customers and your business.

### Using the Principles, Processes, and Patterns

Design is about making informed trade-offs between competing constraints. Customer-centered design tries to make these trade-offs clearer, but only you can solve the problems. The principles help you decide between different process activities at a particular step of your project. For example, when deciding between iterating on a paper design one more time versus building a high-fidelity version of the design, you might decide to stick with paper because you can easily bring in potential customers to evaluate the design.

You can also use the principles to help you decide among different design solutions you developed using the patterns. Say, for example, that you are not sure whether your branding is prominent enough during checkout on your site. You could use online surveys, a common tool of market researchers, to quickly see what potential customers think.

### Take-Away Ideas

Your opportunities on the Web are vast, but so are the difficulties of delivering a site that customers will give high marks for content, ease of use, performance, trustworthiness, and overall satisfaction. These problems are not insurmountable if you solve them with the set of principles, processes, and patterns we have described.

In the rest of this book you will find more reasons to implement customer-centered design, descriptions of techniques to use in your current projects, and dozens of design patterns proven to enhance your customers' experience. Guidelines for instituting customer-centered design will help you through the process.

## 1.7

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This book is meant as the first step in an ongoing conversation to improve the Web. We have not identified all of the useful Web design patterns. New patterns will be found, and the patterns we describe here will evolve as new techniques are invented and customer knowledge and skills change. We encourage you to join in the conversation and keep moving the Web toward the new, raised bar for success.