



Stop Losing Customers on the Web

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The Web gives marketers a wealth of options for building customer loyalty. New technologies offer innovative methods for reaching customers, such as one-to-one marketing, personalization, dynamic pricing, promotion tracking and precision analytics. While these tactics grab marketers' attention and budget share, the most basic marketing tenet of all has yet to be widely implemented on the Web — make customers happy. Too often, Web sites are not designed with the customers' point of view in mind and do not deliver on their expectations. Companies can fill a site with brand-building "marketese," but the biggest impact on a brand comes from the way customers experience the site itself. To build a world-class brand, Web sites must deliver a world-class customer experience.

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Companies working to develop an online presence for their strong bricks-and-mortar brands should take this issue very seriously. For companies, the efficiencies of Web-based technology can cut the cost of doing business. At the same time, consumers are turning to the Web because of the convenience it promises. The Web should be a win-win situation for both companies and customers. Yet when a site delivers a poor user experience, both parties lose: customers sacrifice valuable time and the business forfeits the opportunity to build brand equity.

To successfully do business on the Web, companies must focus on making customers happy by shifting priorities away from "marketing" to customer satisfaction. By putting a premium on the customer's point of view and identifying — and correcting — obstacles, companies can begin to offer a great Web experience.

"Marketing" Doesn't Make Customers Happy

Traditionally, marketing efforts focus on driving people to a product with advertising and promotions, and then working to keep their business with quality

goods and services, incentives and loyalty programs. Marketers who adhere to this paradigm may view the Web as simply another medium to achieve these goals — one that confers the additional benefits of access to plentiful customer data, the potential for targeted e-mail marketing campaigns and the opportunity to distribute their latest and greatest marketing collateral. However, many online marketing initiatives may actually run counter to making customers happy. One of the consistent themes drawn from the experiences of thousands of people who have test-driven Web sites in Keynote evaluations is that users are turned off by marketing efforts that are designed to benefit the company and not the customer.

"Many online marketing initiatives may actually run counter to making customers happy."

Keynote panelists have complained about each of the following marketing techniques:

- Dynamic pricing
- Pop-up surveys that appear at inopportune moments
- The use of jargon, hyperbole and other forms of "marketese" in lieu of straightforward communication
- Slick images, animations and movies that load slowly, cause computers to crash and deliver little useful information
- Home pages cluttered with too much information
- Flashy features that look good but only work for those with high-speed Internet access
- Sites loaded with distracting advertising, especially ads disguised as content
- Promotions that are confusing and frustrating to redeem
- Registration forms that request unnecessary personal information
- Automatic newsletter registration from which it is difficult to unsubscribe
- Hiding costs, such as shopping subtotals, shipping costs, taxes, site commissions and return information

At best, marketing ploys like these are nuisances. At worst, they add insult to the injury of an overall poor user experience. With consumers able to switch to competitors so easily on the Web, online marketers should weigh the potential benefits of these types of techniques against the costs of diminishing customer satisfaction.

Putting Customers First: User-centered Decision-making

The first step toward prioritizing customer satisfaction on the Web is to put the user at the center of all Web development decisions. Web site functionality should be determined by its impact on the user, not on the basis of what is easiest to implement technologically. Web usability experts, such as Jakob Nielsen, have long argued for “user-centered design,” which calls for creating technology to meet the needs and natural inclinations of users, rather than developing technologies and training users to adapt to them.

For example, many sites must access multiple databases, such as one for product information and one for content archives. From a technology standpoint, it is cleaner to have separate search engines for the two databases. However, from a user’s perspective, it is much easier to use a single search box to find anything on the site. What is easiest for users may require more engineering and may necessitate trade-offs on other features.

Companies can increase their focus on the customer’s point of view by:

- Making user-centered decision-making a company mission
- Holding decision-makers accountable for metrics that indicate customer happiness, such as success rates on basic tasks, difficulty ratings and overall customer satisfaction
- Developing a cross-disciplinary customer experience team that brings marketing and design teams together to meet customer satisfaction goals

- Hiring a user advocate and giving that person authority; some companies have vice president or director-level positions for user experience
- Implementing a regular testing strategy throughout the product development cycle to determine what users want, like and expect

Once a company has committed to user-centered decision-making, the next step is to find out what the user’s perspective is. The only way to know for certain is to ask real people to test drive the site.

“Guidelines provide a starting point – users tell you when you have actually arrived.”

Understanding The Customer’s Point Of View: Customer Evaluations

So how does one determine what is necessary to create a positive customer experience? Intuition is not enough — you can’t guess what people will do, think or feel in response to a stimulus as complex as a Web site. People do not look at a Web site objectively; they interpret the site through the lens of their past experiences and expectations. While Web usability researcher Jared Spool identified barriers in a site’s shopping process, he projected that new barriers would still be found after retesting the process with a sample of over 90 users. Given this fact, no one designer, nor a team of marketing professionals, can guess how users will react to a site without risking costly mistakes.

Likewise, design guidelines are helpful, but users’ reactions will vary according to who they are, the content of the site and their goals for using it. Guidelines provide a starting point — users tell you when you have actually arrived.

Thorough user testing pays off in reduced uncertainty and strategic insights that directly impact customers’ likelihood to return to the site. Although price, quality, and selection are key drivers for customers, Keynote data reveal that the Web site experience itself has a strong impact on likelihood to return.

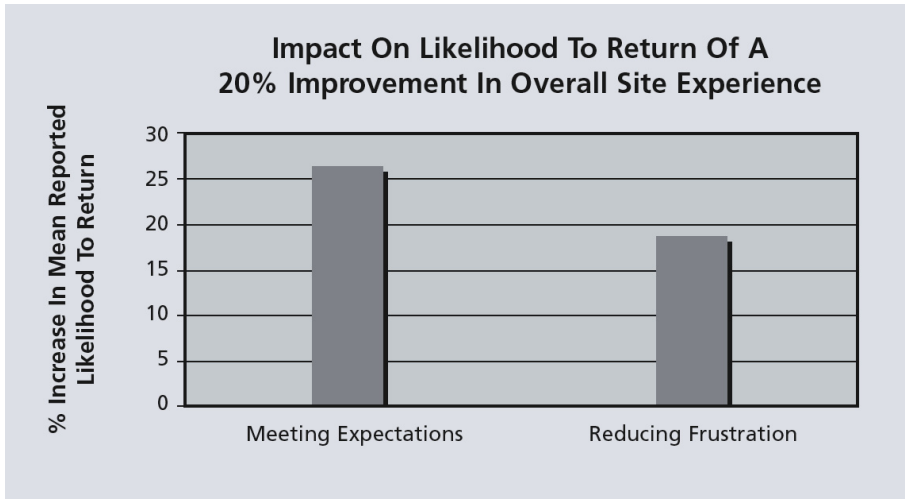


Figure 1 Source: Keynote

In a review of aggregated data from 28 Web sites involving over 1,600 participants, Keynote has found that sites that successfully meet user expectations and minimize user frustration significantly increase the likelihood that customers will return to their sites. In fact, even an incremental increase of 20 percentage points in meeting users' expectations or relieving their frustrations has a strong impact on users' likelihood to return (see Figure 1).

Similarly, making specific improvements, such as refining search capabilities and streamlining registration processes, increases the likelihood that users will visit again. For example, increasing satisfaction for particular aspects of the online experience by only 20 percentage points directly impacts users' likelihood to return to the site (see Figure 2).

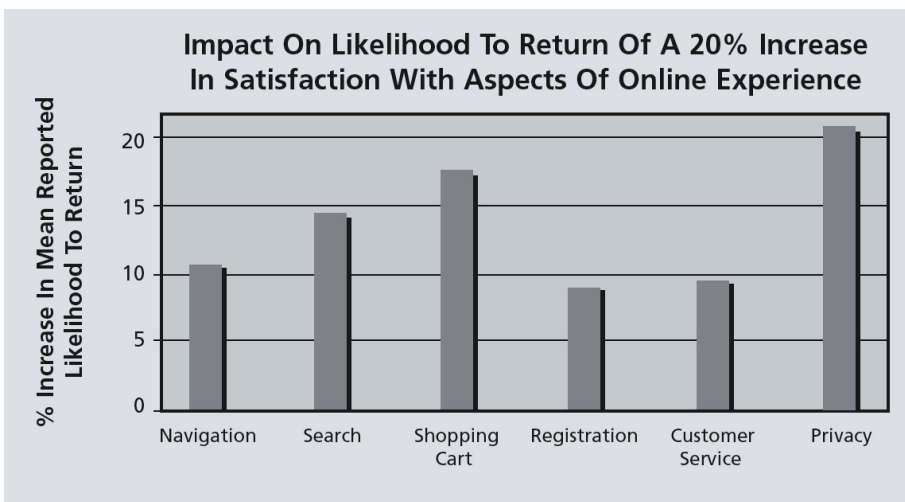


Figure 2 Source: Keynote

The point of gathering customer feedback is to discover what users experience on a Web site and to learn how the site can be improved to increase their satisfaction.

For a complete picture of the user experience, it is important to examine all the critical aspects, including behavior (e.g. Where do users abandon registration?), thoughts (e.g. Do users realize they have completed a purchase?), and attitudes (e.g. Do users feel the site is trustworthy?). By combining qualitative data (e.g. Why did you give-up?) with quantitative data, (e.g. number of page views, navigation path) marketers can gain powerful insight into what changes would improve the experience. Of course, to ensure reliable data, Web evaluations should be conducted with careful consideration of research issues such as sample biases, demand characteristics and reliability and validity of psychometric measures. Furthermore, interactive testing establishes benchmarks to measure the impact of changes on customer satisfaction.

Thus, a good Customer Experience Evaluation can reveal:

- Users' prior expectations (e.g. Where do customers expect to find a product demo?)
- Users' behavioral tendencies (e.g. Where do customers tend to click first?)

- Which features will impact your bottom line (e.g. Which feature should be developed first: a more accurate search engine, or a faster checkout process?)
- Which features are likely to be deal breakers (e.g. Will asking for a home phone number prompt registration abandonment?)
- What your competitors offer – what's working and what isn't on their site(s) (e.g. Should you match a competitor in offering links to an independent research site, or does this distract users?)
- How your site compares to industry benchmarks (e.g. How does your site's search function stack up against other search engines?)

These data will provide actionable insights for both business strategy and design decisions: what to fix, how to fix it, what to fix first, and how much to spend.

Happy Customers Are Successful At Basic Tasks

To make customers happy on the Web, sites must provide enough guidance and structure so that users can successfully complete basic tasks with little effort.

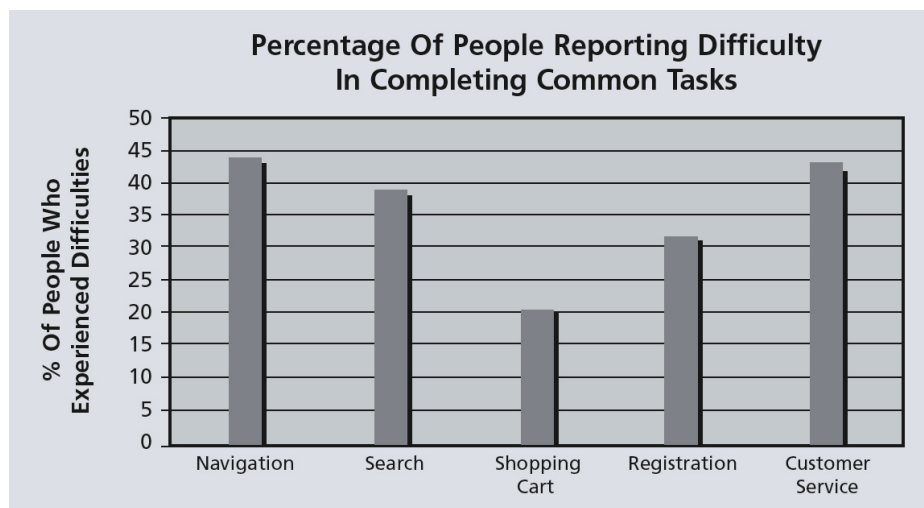


Figure 3 Source: Keynote



Figure 4 Source: Keynote

Recent Keynote analyses indicate that users experience high rates of difficulty with basic tasks (see Figure 3). Difficulties with site navigation and locating basic customer service information were the most common problems, with over 40 percent of users experiencing difficulty. Not surprisingly, success on these tasks directly impacts the likelihood that users will return to a site. For example, increasing user success on simple navigation tasks can increase likelihood of return by as much as 25 percent, with similar effects for other common tasks (see Figure 4).

Keynote operates according to the premise that basic tasks on the Web should be as effortless as those we take for granted in the offline world. For instance, we may use an escalator to get from one floor to another in a department store. We are not necessarily conscious of the role the escalator plays in our shopping experience. To us, it is simply a structural factor that helps us get to other parts of the store easily so that we can accomplish our goals.

On the Web, technology is not as transparent. In order to make customer experience online flow as seamlessly as that escalator ride, Web designers must carefully think through the steps of typical tasks and include signals and structural elements that will enable users to realize their goals. Web sites also need to build upon the implicit learning users have

from interacting with other sites and emerging design conventions. These subtle changes are not “features” that can be listed on comparison charts, which may make it tempting to make them a lower priority. While customers may not explicitly notice these subtle changes, they will notice that they get what they want with little effort and frustration.

Although these changes will depend in large part on the nature of the activities being considered, there are several general steps Web sites can adopt to create a more effortless customer experience:

- Know the typical use cases – what are the different goals and motivations that users might have?
- Know your target market’s likely Web experience level, and tailor designs to their particular needs
- Understand the needs that different types of users may bring to the table
- Choreograph your users’ experiences according to the steps involved in each usage scenario. What cues do they need to follow to get to their goals?
- Reduce the number of decisions users must make and guide them toward specific choices to help them avoid wrong turns
- Build contingencies for common mistakes to get users back on track when they go astray

The next section discusses some best practices that have emerged from Keynote evaluations and the collective experience of our consultants, clients and research team. Improvements in each of these areas can exert a dramatic influence on customer experience and loyalty.

Specific Suggestions To Increase Customer Happiness

Below are some consistent recommendations that have emerged from Keynote evaluations. Of course, each site is different. In the end, customer experience boils down to the user's perspective, which is highly context-specific. For that reason, the following recommendations are presented as starting points — your users' needs should always be the deciding factor in how to improve your Web site.

HOME PAGE

The home page is the first opportunity to communicate the site's value proposition. The site should communicate this value clearly and provide the user direction as to how to proceed.

On the home page, companies should attempt to:

- **Organize the home page for the user's perspective.** The home page should not be organized to reflect the company organization structure, where each department has a small piece of real estate. Rather, the home page should clearly communicate the site's value proposition in one voice.
- **Clearly state the value proposition.** The site's value proposition needs to be made clear in very few words. If users cannot figure out the value proposition quickly, they'll give up.
- **Reduce clutter.** Most home pages try to include too much information; focusing on essential elements is more effective. Clutter yields site abandonment — if users cannot figure out what a site has to offer, they leave to find another site.

- **Direct users to specific use cases.** The home page can be designed to customize itself to specific use cases to better meet the needs of particular users. For example, if a user is new, the home page can present what they need to get started. If they are return visitors, they could be shown relevant information based on their last visit. As quickly as possible, users should be funneled to the use case scenario that will most likely get them to their end goal.
- **Personalize to present the most relevant information for the user's context.** The home page could use personalization technology to simplify the user experience by showing focused content relevant to the user's context.
- **Educate novices.** Many sites offer new solutions for problems that users are not even familiar with yet. Many beginners are still learning the basic Web jargon and features. Sites must educate users about the concrete benefits of not only a particular site, but of a class of sites.

Because of the limited space on the home page in which to communicate where to find information, users will often immediately look for a search box.

"Your users' needs should always be the deciding factor in how to improve your Web site."

SEARCH

Users want to find what they are looking for as quickly as possible, and often use a search box hoping this will serve as a shortcut. Unfortunately, search results are often inaccurate and irrelevant, further frustrating the user.

To increase the satisfaction with search, companies should:

- **Improve accuracy.** Users get annoyed when search results are not accurate. For example, users on a jewelry site will be disappointed if they type "gold rings" into the search engine and get "zero results."

- **Increase relevancy of results.** Irrelevant answers frustrate users. Search engines need to be tailored to produce the items for which people are likely to be looking. For example, if someone searches for “Kleenex,” they probably do not want to see every item that has a reference to the term “Kleenex;” they are probably looking for Kleenex tissues.
- **Do not assume that users understand Boolean logic.** Multiple-word searches should narrow results rather than broaden them. For example, if a user types in “sweater,” they are expecting to get many more search results than if they type in “cashmere cardigan sweater.” Poorly designed search engines do the opposite by treating multiple words as Boolean “ORs.” They give the results for “cashmere” and the results for “cardigan” and the results for “sweater.”
- **Provide a universal search box.** Users want to have one search engine for the entire site, and they expect to be able to search from any page on the site.
- **Automatically detect the user’s context.** Smart search engines are sensitive to the context and location from which a user is searching. For example, if the user is in a research section of a site, then they are probably looking for articles about a product, rather than a particular product itself.
- **Group and sort results.** Users need good ways of parsing search results they do get. For example, if a user wants to search for “The Beatles,” the results can be presented in groups sorted by Books (e.g. biography about The Beatles), Music (e.g. CDs by The Beatles), and so on.
- **Let users further refine results.** Smart search engines can present the most relevant results first, but should still at least link to other possible results in case it assumed the wrong context. For example, the most relevant results can be ranked first, with links that say “For similar pages...”

Users who are not looking for something specific, or have little faith that using the search box will work, must navigate through the site. Navigation presents its own set of issues.

BROWSING AND NAVIGATION

Within any navigation system, it is important for users to know where they are, how they got there and where else they can go. The site must provide clearly labeled signposts where users are likely to see them. Most commonly, users are provided “Nav” bars, with the primary navigation bar across the top, showing the higher order categories of information and a secondary one down the side.

Ways to improve the navigation experience include:

- **Provide “breadcrumbs” that highlight the user’s path (e.g. Home > Products > Bicycles).** People use them as a learning tool about how the site is structured, but not necessarily as a way to navigate. Often, users look at the breadcrumbs but click on the back button instead of the breadcrumb links.
- **Cross-categorize information.** Cross-categorization of products and information is a great advantage that the Web has over bricks-and-mortar businesses. For example, on the Web, hotels can be listed under Travel, Banquet facilities and Housing, as well as under Hotels. Cross-listing also helps get around the variations in people’s semantic categorizations. For example, should “spa” be listed under personal care and beauty, under fitness or under travel and accommodations? Particular users are bound to interpret “spa” in different ways and have different associations. Again, cross-listing it under several categories will increase the possibility for sales.
- **Follow navigation conventions.** Web sites can help users by following established conventions for navigation bar placement. For example, the convention has been established that the company logo appears in the upper left corner, with the primary navigation bar across the top and the secondary navigation categories down the left side. Varying from these conventions requires a great deal more guidance for the users, who will be looking for the standard layout.

- **Tailor navigation designs to fit the site.** Although it is helpful to follow conventions when possible, navigation schemes should always be tested for the particular site. Sites frequently copy navigation designs from popular destinations (e.g. Amazon tabs), without ever knowing whether the design was successful or not. Site designers need to evaluate the navigation aids for their particular use cases.

Getting users to their destinations efficiently and helping them know how to get there again is critical. Helping users keep track of previous information they may have already found is also important. This requires registration.

REGISTRATION

Registration and check out forms provide users with benefits, by making the shopping process more convenient and personalized. However, they are annoying to complete, and often leave users vulnerable to being spammed with marketing materials. Thus, registration and check out forms can be a great turn-off to users. Sites must make the process as painless as possible, and assure the user that personal information will not be misused.

To increase registration on a site, companies can:

- **Eliminate redundant questions.** Users don't want to re-enter data that they have already provided on the site. For example, if during the registration process users must give address information, they don't want to have to re-enter that data when checking out. There may be several unrelated databases on the backend, but once they have given information to the site, users expect the site to "know" it. Again, just because it is technically difficult to store and recall information, it doesn't mean customers don't expect it.
- **Provide buttons when users must make a choice.** Users expect to find buttons that will facilitate tasks on a Web site. Although many users are also familiar with text links, confusion about such links is common. Novice Web users in particular look for buttons when it is time to make decisions.
- **Present "secure server" options carefully.** Although users care about security in the abstract, many become uncomfortable when asked whether or not they want to use a secure server. Rather than prompting users to make a choice that many don't quite understand, sites should consider establishing a secure connection as the default.
- **Provide a step-by-step diagram of the purchasing process.** It is important for customers to know where they are on the site, how far they've come in the ordering process and what steps they have left to complete. In general, any process should be thoroughly explained to users by presenting an agenda beforehand and progress indicators along the way. When they have finished a section, users should receive a summary about what the site knows about them. All steps should have clear transitions linking them together, such as, "Now we're going to ask you..."
- **Provide explanations for information requests.** If it's not obvious why the site needs certain information from users, then tell them. For example, some medical recommendation sites require sensitive information to be effective. If, for instance, it is critical to know whether a woman is pregnant before recommending a drug, this should be made completely clear to users beforehand – and the reasons why should be explained. Context influences the willingness of users to supply personal information such as phone numbers. If the request is made in the context of shipping a product, people are likely to provide it. It makes sense that the company may need to call if there is a problem with the order. But if such information is sought in connection with a general brand promotion, users assume the company will call them for marketing purposes, and most people will not provide the information.
- **Clearly label optional and required information requests.** Tell users which fields are required and which are optional in the beginning. That way, users can decide right away whether they want to provide any sensitive required information.

- **Let users choose to receive newsletters.** Users should be given a clear opportunity to decide for themselves whether they would like to receive newsletters or promotions. "Opt-in" does not mean providing buttons in such a way that users may unwittingly "opt-in" because they did not notice the buttons, or know how to uncheck the option.
- **Provide helpful error messages.** Error messages should clearly state what the user needs to do to correct the problem.
- **Help users understand legal agreements.** Generally, users don't read legal contracts, which are notoriously hard to understand. A straightforward summary in common everyday language will prevent misunderstandings. For legal documents that must be included, short cuts at the top of the page that anchor to specific sections may be helpful.
- **Present a privacy policy.** Privacy and security policies should be easy to read and prominently placed. Be clear about how personal information will be handled. Users carefully guard information about their income, age, ethnicity, children and personally identifying information that could lead to being pestered by marketers. People assume the worst if it isn't clear how the information will be used.

Registration promises convenience and added value to users. But, beyond billing and registration, e-tailing sites must also provide shopping carts.

SHOPPING

Using a shopping cart online should be as easy to do as pushing a "real" cart down a shopping aisle in a brick-and-mortar store. Users should be able to see what they have in it and should be able to add and remove items easily.

Way to improve the online shopping experience:

- **Provide a "persistent" shopping cart.** Users want to see what they have in their carts at all times while they shop online. They want to see the items, how many and the price of each. As price is important for comparison shopping, a persistent shopping cart prevents users from having to go back and forth from their shopping cart while shopping. Customers also want to see the running total of their order. This is an improvement over the brick-and-mortar shopping experience. On the WebVan grocery delivery site, for example, you can see what you have, what your running total is, and whether you have hit the magic threshold for getting free delivery. If there is a promotion, users want to see that in their cart also – not at checkout. Persistent shopping carts are tricky because the names of items are often long. People need to be able to see enough to know what the item is. Ellipses are helpful to show that there is more if the user wants to see more.
- **Provide total cost information.** Users want to know the total cost before filling out billing information. Some sites make users enter their credit card information before revealing the shipping, handling and tax costs. However, Web users want all that information upfront, before deciding whether or not to pay.
- **Let users modify their choices easily.** Users expect the ability to add, remove and modify quantities easily, especially after seeing the total cost. It is easier for users to remove items at the end of the shopping process than to go back and find them again.
- **Let users save shopping items for later.** Unlike with traditional shopping, Web consumers want to be able to put their partially-filled carts aside and come back to them later after doing other things. The Web has the wonderful advantage of preserving information about customers, their items of interest and about recurring lists. Well-designed sites allow users to keep their chosen items in the cart for later, or put items on a wish list for the future.
- **Show how to redeem promotions.** Promotions are tricky, and it can be difficult for users to figure out how to add special promotions to their purchases. At the store, you simply present the physical coupon or gift certificate to the clerk, much like cash. On a Web site, if it is not clear how to take advantage of the promotion, users may be afraid to go all the way to checkout only to find they are not getting the special deal they hoped to receive.

- **Clearly confirm purchases.** Sites should confirm whether the purchase was completed or not. If there is no clear feedback, the user may think that it did not go through and go back and buy the product again. One worst-case example is a customer who thought he had purchased airline tickets, but discovered at the airport that he had only received a reservation confirmation, not a purchase confirmation. This can be a very costly mistake. Good shopping carts make it unmistakably clear whether the purchase has been completed.

Sites should concentrate on improving the most basic tasks outlined above to increase customer satisfaction and reap the rewards of making their customers happy — repeat customers. Other features of the site should also be given the same rigorous testing and review from the customer's point of view.

Keynote has also evaluated — and found problems with — many other Web site tasks, including:

- Advertising awareness
- Auctions
- Community features
- Customer Service
- Lead generation
- Price comparisons
- Product configuration features
- Product demos
- Purchasing guidance/recommendation systems
- Tech support

To view additional papers on methods and findings, visit the Keynote Web site at www.Keynote.com. For a brief overview of the Keynote Methodology, see Appendix A of this paper; for a description of the Keynote Research team, see Appendix B.

Conclusion

To create happy customers on the Web, companies must put users at the center of all their decision-making regarding Web marketing and design. User feedback should be obtained early and often to determine what users need, like and expect — and what's working or not working on the site. The full picture of Web experience should include the behaviors, thoughts and feelings of users as they interact with the site, with the opportunity to relate all the pieces of data to each other. Sites should be designed to anticipate and choreograph all the common use cases so they are effortless for users to navigate.

Keynote evaluations have revealed many ways that even the most basic Web site tasks can be greatly improved. At this point in the Web's history, increasing customer satisfaction on the Web is not dependent on complicated loyalty and customer relationship management programs. Rather, it is straightforward — ask users to test your site, and eliminate all the pain points they report.

Appendix A: Summary of Keynote Methodology

The Keynote methodology takes a new approach to customer experience testing by combining the critical elements of traditional usability testing, market survey research and log analyses into one fast and cost-effective evaluation. Large samples of users evaluating the site remotely provide more reliable, more representative data than traditional usability testing. The intent-based context allows for meaningful interpretation and aggregation of users' behaviors, as recorded in log files. The approach has the unique advantage of relating the different aspects of customer experience, including brand positioning, expectations, users' behaviors and subjective experiences of the site itself, into one analysis. In these ways, Keynote is able to provide accurate, reliable data and insight for a window into the Web user's experience and how that experience

might best be improved. Thus, marketing executives discover how they should allocate resources for maximal impact, while designers obtain insight into why particular features and functions are not working as planned and how to best modify them. To learn more about the methodology behind Keynote evaluations, please write to product-info@keynote.com

Appendix B: The Keynote Team

The Keynote team consists of consultants and researchers. Consultants have training in both market research and usability methods, as well as in advanced Keynote evaluation practices. The Keynote research team consists of professionals with backgrounds in experimental psychology, market research, quantitative management consulting, mathematical modeling, Web usability and technology publishing. The research team conducts internal evaluations and analyzes aggregate results across these evaluations to identify best practices and establish benchmarks for comparison with particular results.

About The Authors:

Dr. Bonny Brown is Senior Research Scientist for Keynote. She is an experimental social psychologist and has over 10 years of experience in both qualitative and quantitative research in marketing, psychology, and technology. She is co-founder and President of the Bay Area chapter of the Usability Professionals Association, and has conducted primary

research on usability and survey methodologies. Before joining Keynote, she studied how Web sites could be designed to best support goal-directed behavior and led an effort to design a Web-based self-motivation coach. Working for the American Institutes for Research's Cognitive Labs and Center for Community Research, she conducted cognitive lab and usability tests for the Voluntary National Test (VNT) and the National Assessment Educational Program, and program evaluations for the Department of Education for the State of California. She received an M.S. and Ph.D. in Experimental Social Psychology from Stanford University where she worked with Dr. Mark Lepper and Dr. Robert Zajonc.

Dr. Anthony Bastardi is an experimental psychologist with over 10 years of experience conducting theoretical and applied research in cognitive and social psychology. His work has been published in leading academic journals and includes research on behavioral decision-making, attitude and belief change, information pursuit and use, and strategic behavior. He has served as Research Associate in the Woodrow Wilson School of Public and International Affairs at Princeton University where he conducted research exploring motivational influences on the interpretation and evaluation of Web-based information relevant to social issues. He received an M.S. degree in Statistics and a Ph.D. in Experimental Psychology from Stanford University where he worked with Dr. Lee Ross and Dr. Amos Tversky.

i For good reviews see:

- Smith, E. R. (2000). *E-loyalty*. New York: Harper Business.
- Newell, F. (2000). *Loyalty.com*. New York: McGraw Hill.

ii Nielsen, J. (2000). *Designing web usability: The practice of simplicity*. US: New Riders Publishing.

iii For a theoretical discussion of the extent to which humans' perception of stimuli are influenced by their past experiences, see:

- Schank, R. C., & Abelson R. P. (1977). *Scripts, plans, goals, and understanding*. Hillsdale, NJ: Erlbaum Associates.
- Gibson, J. J. (1977). *The theory of affordances*. In R. E. Shaw & J. Bransford (Eds.), *Perceiving, acting, and knowing*. Hillsdale, NJ: Erlbaum Associates.

iv Spool, J., (August, 2000). *Barriers to Shopping*. Presentation to the Usability Professionals Association Annual Conference, Asheville, North Carolina.

v An example of Web design guidelines:

- Lynch, P. J. & Horton, S. (2000). *Web style guide*. New Haven, CT: Yale University Press.