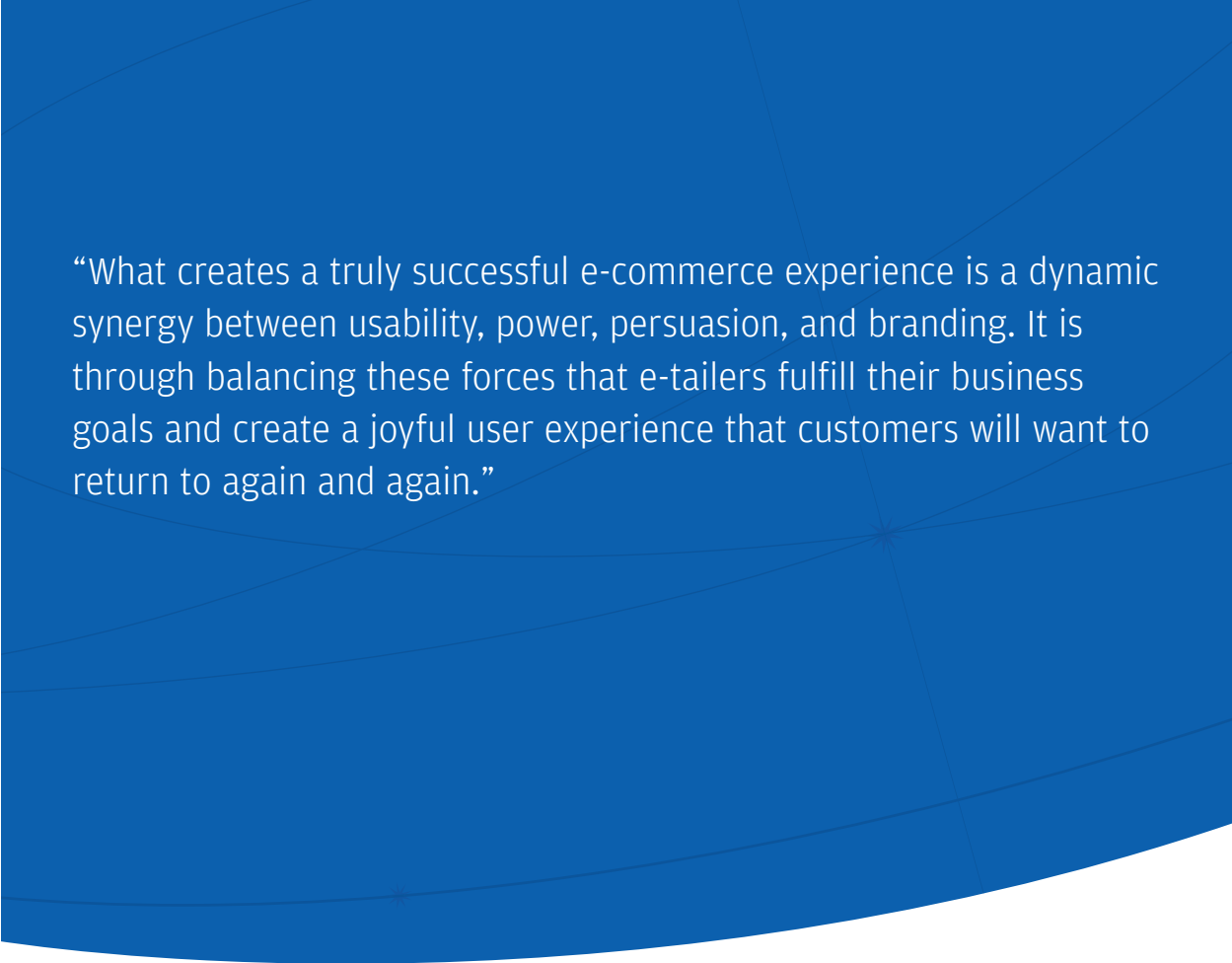# Five Dimensions of User Experience

Balancing business and user experience perspectives to create successful e-commerce sites

Phil H. Goddard / VP Western Region
Sean McLeary / Project Director
with Douglas Gorney / Senior Writer
Human Factors International, Inc.

White Paper

Human Factors International

"What creates a truly successful e-commerce experience is a dynamic synergy between usability, power, persuasion, and branding. It is through balancing these forces that e-tailers fulfill their business goals and create a joyful user experience that customers will want to return to again and again."

Five Dimensions of User Experience

Balancing business and user experience perspectives
to create successful e-commerce sites

Table of Contents

Introduction

The local cheesemaker had built a name for himself. Folks came for his cheddar from miles around. Sales were strong. Marketing? All he had to do was open his door every morning.

Now things are more complicated. CheeseMart has opened up nearby. There's a Curds-R-Us going up. Customers are more cheese-savvy, too. They want to see gouda and jarlsberg, they want different-sized slices, they want sandwiches. So the cheesemaker has expanded his range. He's opened a deli counter, offers free samples and makes impressive displays with wheels of cheese.

Sales are still strong. Yet the cheesemaker lies awake at night wondering if he's doing the right things in the right way—or if he's losing his loyal customers. Business owners of major e-commerce sites also worry. They don't have the only fromage in town. They know it, and their customers know it, too.

As design tools and the practice of e-commerce have evolved, Web shoppers have become increasingly sophisticated. Not only do users value quality products at good prices, but they are beginning to expect more interactive, transparent, and powerful shopping experiences.

Overlooking best practices in e-commerce design can lose a national retail brand millions of dollars in sales. But many online businesses are not able to pinpoint where the opportunities are or how to capitalize on them. More than opinion, they need perspective.

Human Factors International's user-centered research and design methods have evolved to encompass elements of marketing, conversion optimization, and emotional design. We find ourselves in the middle of a major shift in focus from performance design to persuasion design—and from user-centered design to success-centered design.

As part of this evolution, we've had to develop new techniques and new language to discuss the total user experience, building a bridge between business teams, and design and development teams.

In this paper, we introduce one such bridge—*the five dimensions of user experience*. We'll show how this perspective provides a model that encompasses the

The names of actual companies, organizations and products mentioned herein may be the trademarks of their respective owners. All screenshots are taken from public websites.

marketing, business, and usability facets of the user experience. We suggest that what creates a truly successful e-commerce experience is a dynamic synergy between usability, power, persuasion, and branding. It is through balancing these forces that e-tailers fulfill their business goals and create a joyful user experience that customers will want to return to again and again.
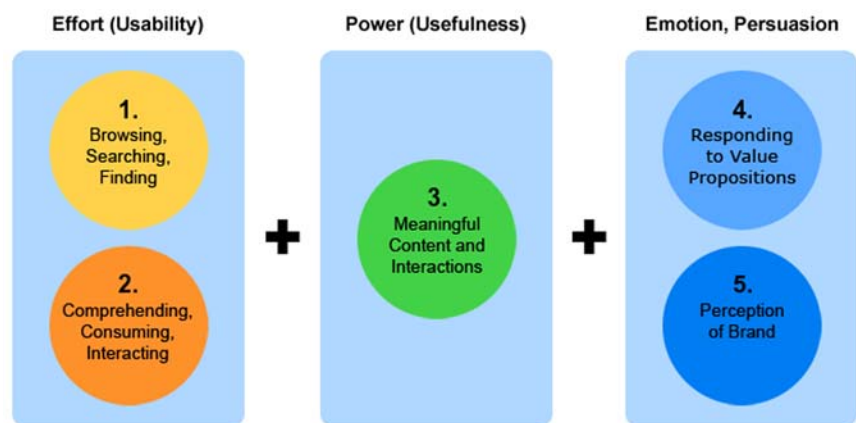
The five dimensions of user experience

1 & 2. Effort and Usability (browsing, searching, finding, comprehending, consuming, interacting)

The experience of *effortlessness* is a fundamental goal of successful site design and a key pillar of a successful user experience—one that sums up decades of user research into two dimensions.

Shoppers have many choices in today's market. Oftentimes, the same handbag or electronic gizmo can be found at a myriad of other sites. A difficult shopping experience—one that requires a lot of *effort*—will turn your customers away from your site and to your competitors' instead. And once you've lost them, it may be for good.

That's why the elements that make up the first two dimensions of the online retail experience are truly cornerstones: *Can I find what I'm looking for? When I do, can I act on it?* In other words, are you creating an effortless experience for them? Will your customers be able to accomplish their buying tasks and do it easily?

Site designers and business owners should hope their users are answering "yes" to these questions. While the other dimensions of e-tail still come into play, an

e-commerce site's mission is fundamentally compromised if it's not highly usable. Some of the key elements for achieving that usability in e-commerce include:

› Effective navigation
› Uncluttered page designs that direct users' attention
› Clear starting points and pathways

Effective Navigation *Effective navigation*, we often say, is 80% of usability. Users should know where they are at all times, and they should be able to see where to go and how to get there—supported by a structure that's easy to understand and promotes essential online shopping tasks. Good products, great prices, and the other dimensions of e-commerce are wasted if shoppers can't navigate your selection.

Meaningful product categorization and clear labels, as well as strong indicators of place and good visual design, are essential to building meaningful navigation. Shoppers will struggle to find the products they are seeking if groupings or the words used to describe them are confusing. This is especially true for stores with a broad assortment of products.

In the example below, Sears creates confusion with its categories. The fuzziness between *Fitness & Sports* and *Health Care,* and between *Fitness & Sports* and *Toys & Games* will keep users guessing, "*Where is the product I want?*"

Some of the categories and labels on Sears.com keep the user guessing

In addition, the navigation header, laid out in two rows, adds to the effort a user must spend in order to absorb all of the categories and figure out which is right for him.

By contrast, the main navigation categories at Home Depot's site leave little to be assumed. A shopper simply matches his need with the related category and clicks. *Effortless.*

A competitor's site is well-organized and intuitive, the navigation path is clear

Uncluttered Pages E-commerce pages are often full of information for customers to use in the shopping experience: product images, product descriptions, price, cross-sell and up-sell opportunities, promotions, navigation, customer reviews, branding, buttons, and other controls. Pages can quickly become visually over-whelming and difficult to use.

By applying basic page layout and design principles, we can make e-commerce pages simple and easy to use, without sacrificing any density of information:

› group related items together with design and layout
› base your pages on a clear and consistent grid structure
› emphasize the page elements that need the most attention
› be clear about what task(s) the user is trying to accomplish and don't over-whelm him or her with secondary items like promotions.

By achieving uncluttered layouts, your sites can control customers' eye move-ments, direct their attention on the page, and increase their chances of perform-ing tasks successfully. Let's look at two examples, one that incorporates the prin-ciples above and one that doesn't:
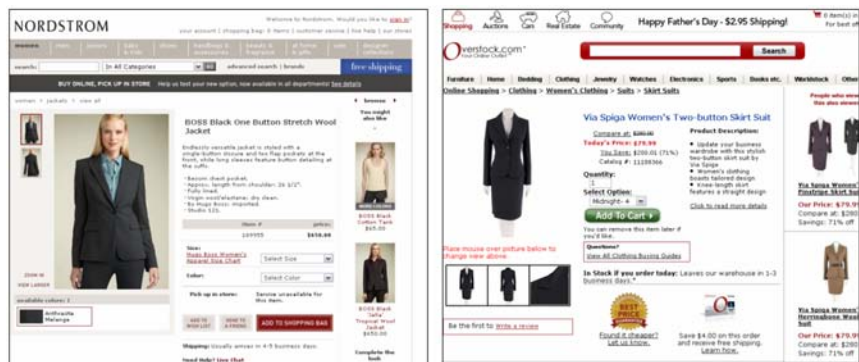
A well-organized design (left) vs. a cluttered one (right)

The uncluttered layout on the left is well organized and feels "easy" to take in. In the page on the right, features and content are scattered in a comparatively slapdash fashion. It is more difficult to read and interpret. In reality, both pages provide essentially the same amount of information and controls. Nordstrom makes the experience effortless, however, while Overstock.com has created usability-impairing clutter.

In its 25 years of usability projects, HFI has uncovered a wide range of visual "cluttering triggers" such as:

› excess shading causes users' eyes to follow horizontal "lines" instead of flowing naturally down the page
› patterned backgrounds make layout appear more cluttered
› inadequate alignment and spacing make forms appear "crowded"
› grey shading behind radio buttons draws undue focus to controls

Removing these cluttering elements and designing your pages for clear consumption will help your site become easier to use and more successful as a result.

3. Power and Usefulness (creating meaningful content and interactions)

E-commerce success has never been achieved simply by providing a usable experience. No matter how effortless the experience, users will not be drawn to your site unless it offers them product, content, or features that help them *know*, *do*, or *get* something meaningful. In essence, providing the ability to satisfy a desire is what defines the UX dimension of power.

The lure of an e-commerce site lies in the innate value of the product or service offered, as well as by the power of choice over a wide selection of available products, sometimes at best price.

Anybody who has ever been to Filene's Basement in Boston knows that power can trump usability.


Power trumping usability at Filene's Basement

Filene's "Running of the Brides" is famous for three things—deep discounts, quality fashion, and pushing and shoving crowds. It is wildly popular despite being a completely chaotic experience.

Similarly, clothing e-tailer ShopBop.com, which scores low on the usability dimensions, boasts both high traffic and robust sales largely because of its rich content for fashion and trends.
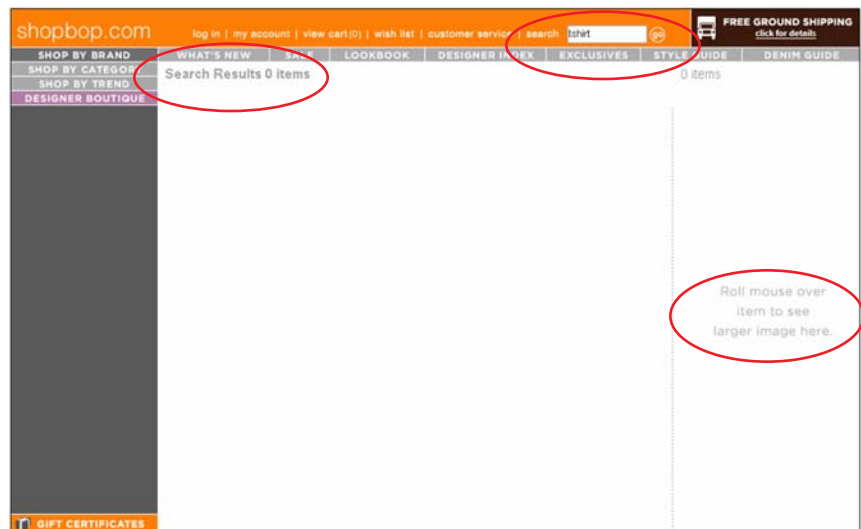
ShopBop's search engine intelligence demonstrates clear usability problems

The tolerance of customers is finite, however. Online, in Filene's Basement, or anywhere else, there comes a point at which too much effort is required to shop. There is an experiment in which a piece of cheese is placed on the other side of an electric grid from a rat. The rat will withstand a surprisingly high amount of voltage in order to get the cheese until at certain point—the "usability threshold," we might say he will no longer cross the grid.

For online retailers, the experiment provides a valuable lesson: A product or service has to be innately attractive enough to bring in customers, but if the design of a site is bad enough, an e-tailer won't be able to sell genuine Faberge eggs for $29.95.

Power can also lie in content that empowers users to inform and entertain themselves.

Interesting, relevant content is a value-added component that lends "buzz" to a site and transcends e-commerce boundaries. How-to's, for instance, for the technically-inclined. The hottest trends for the fashion-crazed. Music and entertainment news that's not available elsewhere.

The "power dimension" has gained added significance in the post-Web 2.0 world of "crowdsourcing." Leveraging the collective knowledge of the user community has led to an explosion in user-generated content. Consumers tend to trust user ratings—*if* they are clearly attributed. It's a phenomenon Amazon.com has taken full advantage of, giving over most of the site to user ratings, user-created "Listmania" lists and user-created "*So you'd like to…*" guides.

Many other retailers have done the same thing, to a greater or lesser extent, letting user-generated content drive sales and make the site more entertaining and "sticky." Users reading the reviews have greater power to make a purchasing decision; users writing the reviews feel that they have power in shaping the site and influencing the buying habits of their peers.

The social considerations of Web 2.0 don't stop there. User communities within an e-commerce site can empower their members. Forums give users a chance to have candid discussions about products or services in the same way that strangers in a brick-and-mortar bookstore might discuss the merits of a novel.

Giving users power doesn't necessarily mean turning your site over to them, however. There are a number of ways to leverage the power of the crowd while maintaining firm control over the process. One approach many retailers use is to make recommendations based on the buying habits of other customers ("Customers Who Bought This Item Also Bought…"). Another is to join the online community that has grown up around your e-commerce site by starting a blog. Because Web shoppers are often jaundiced and not easily influenced by editorializing merchandisers, you must be an open and honest source of information—even to a fault. For most business, criticizing their own products sometimes is well worth winning their customers' trust and opening up meaningful interactions with them.

When Good Design is Power—Faceted Navigation Traditionally, ecommerce product assortments have been grouped, and navigated, entirely by hierarchical product categories. To find an evening dress, for example, a shopper might navigate through *Women's Apparel*, *Dresses*, and *Evening Dresses*. This requires the customer to rely on a pre-set structure of products that may not be meaningful to her at that time. It limits the user's power over the shopping experience at the same time as it returns too many products to effectively sort through.

Faceted navigation, an increasingly used navigation feature of Web 2.0 interactions, allows the shopper to narrow product results down by whatever characteristics (or "facets") are meaningful at the time. A user can select black dresses, or

dresses under $500, or dresses from a particular maker. She can select these at any time and in any order, creating a unique product structure all her own.

Done right, faceted navigation provides your customers with a powerful tool to find exactly what they're looking for, without much effort, among a wide range of merchandise. If it's not presented clearly, however, faceted navigation can be confusing to users. Frustrated customers will look for an e-tailer who's doing a better job.

When Good Design is Power—Rich Media E-commerce will always face one fundamental challenge—a website can never recreate the immediate, tactile experience of putting one's hands on the product, turning it around and even trying it on. But the addition of rich media (videos, interactive Flash animations, etc.) to the e-commerce environment has provided users with powerful experiences both in terms of information and interaction. As the inherently two-dimensional experience of Web shopping feels increasingly more "real," other exciting, meaningful, virtual experiences are making Web shopping a valued alternative to brick-and-mortar stores.

Rich media has enabled home buyers to take virtual walkthroughs on real estate sites. Vehix.com trumpets virtual test drives. Amazon.com will let customers leaf though a few pages of a book, as if they were browsing their shelves, or sample the tracks on an album.

Dell.com not only shows off the features of its computers, it offers users the sweeping, 360º interaction they might get if they were holding a laptop in a store. That sort of meaningful interaction makes the product more attractive and builds trust.
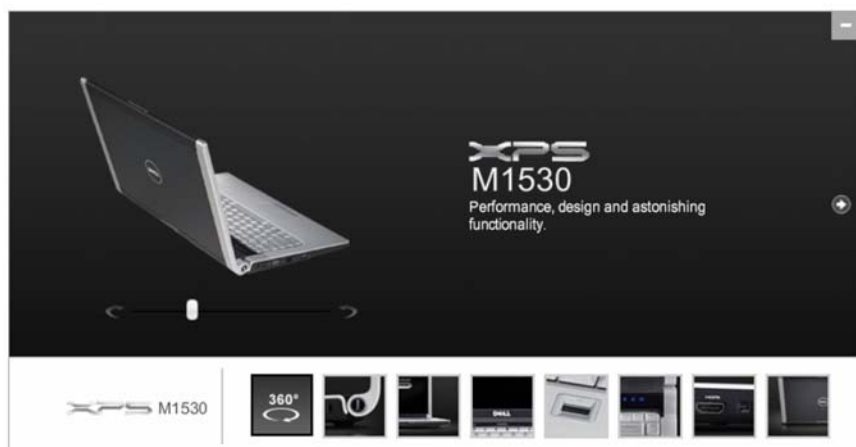
The ability to rotate and zoom in on this Dell computer enhances the overall shopping experience, giving it the visceral appeal of a brick-and-mortar store

Clothing sites with the right rich media let customers see garments in different colors and fabrics, with hems or without, and lets them build and change ensembles, too. Automobile sites are giving customers a power they can only get from the Web.
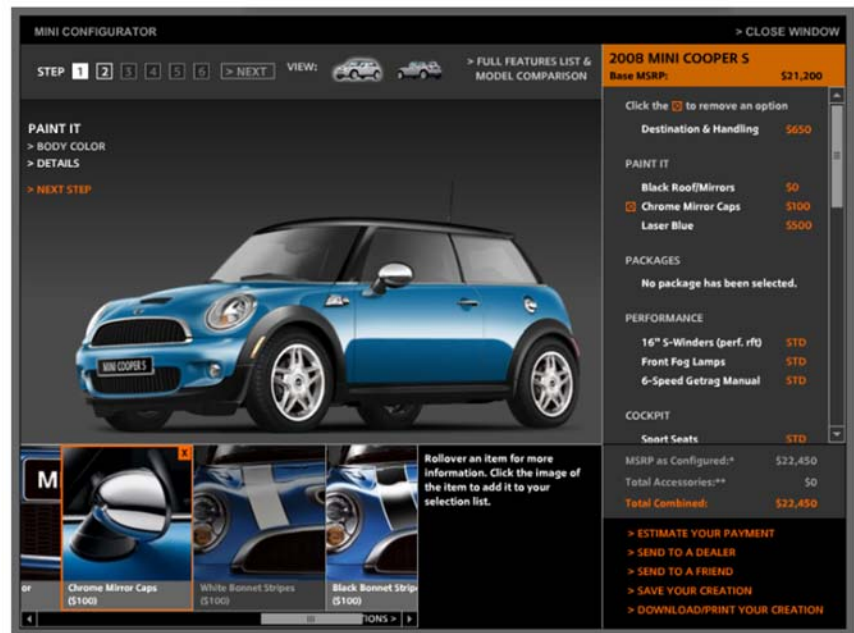
The Mini site gives users enormous control over the build of their new car

The "Mini Configurator" lets Mini Cooper buyers "build" their car in a dozen different colors and see it with—or without—rally lights, stripes, a wood-grained dashboard or a checkered roof, switching options at the click of a mouse. They'll never be able to do that on a car lot. The page also recalculates the MSRP (Manufacturer's Suggested Retail Price) with each change.

As with any design, however, rich media needs to be well thought-out, well-designed, and used with *balance* on the page. A Flash widget that over-powers the primary buying task on the page, no matter how exciting and informative, is doomed to ultimately hurt the site more than it helps.

4. Persuasion (responding to value —calls to action)

Businesses have a clear and obvious goal in operating an e-commerce site—to sell merchandise. And that means persuading the customer to buy and converting the site visit to a sale.

A user's motivations, however, are more subtle and nuanced. Customers may indeed come to the site simply to buy something and leave, but they may also come for information or comparison, to interact with the user community, and for the emotional response the site elicits. In every case, they're after knowledge and value—empowerment, as we discussed in the previous section.

Ultimately, then, successful persuasion models—the kind customers like and want—are those that empower the user by supporting his or her goals.

Persuasion is a balancing act, however. If a site tries to sell users too much at the wrong time, it will prevent customers form buying what they came to the site for. Conversely, not trying hard enough to sell the user anything results in poor conversion.

In the example below, Kmart attempts to say too many things at once on their home page—the result is that many of them get lost to the eye and there is no clear path forward or outstanding call to action.

When clutter meets overselling... too many calls to action = no call to action

Additionally, half of the calls to action are "below the fold"—below the bottom edge of most monitors—leaving many calls to action and the footer itself effectively off the page.

Dell Computer doesn't try to do too much with their home page, but what they do, they do clearly and well. Supported by clean and uncluttered design, the site makes a clear, immediate, and compelling appeal to the user's emotions. The inviting images and links are clear "trailheads" to navigation paths chosen carefully for the broad range of Dell.com users. Dell understands the social appeal of Web 2.0 and puts a link to the Dell Community front and center.

A well-balanced approach

Dell strikes a balance not just between too much selling and too little, or between too many featured page elements and too few, but between the dimensions we have discussed so far. Its design helps users find what they're looking for and interact with it easily. The navigation, features, and messaging empower users. And from the instant a shopper visits the site, the Dell home page skillfully begins the process of selling him or her a computer.

The architecture of persuasion must lead the user through the entire purchasing process with messaging and features that increase the appeal not only of the

item, but of the online store itself. In the end, customers are buying a "shopping experience," not just a computer—a unique, pleasurable and empowering state that makes users feel good about themselves.

Few retailers have exploited this dimension of e-commerce more skillfully than Apple. Its online store's sleek design and rich, engaging content builds confidence in the quality of the product at the same time as it heightens the ineffable appeal of the brand.
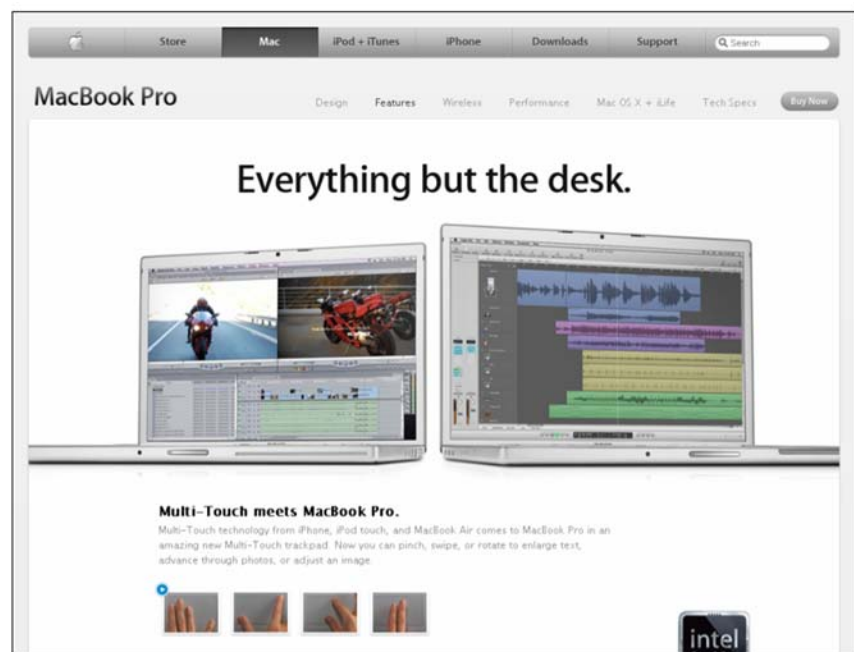
A great shopping experience lets a user know he really does "think differently"

Executed well, the architecture continues persuading the shopper up to—and past—the very end. As a user buys a MacBook, Apple does several important things:

› extends the "shopping experience" by cross-selling an array of related products
› continues building trust by prominently displaying the support number
› builds confidence by calculating a total with tax and confirming a secure link
› keeps the user on task with an unmistakable call to action—"Check out now"
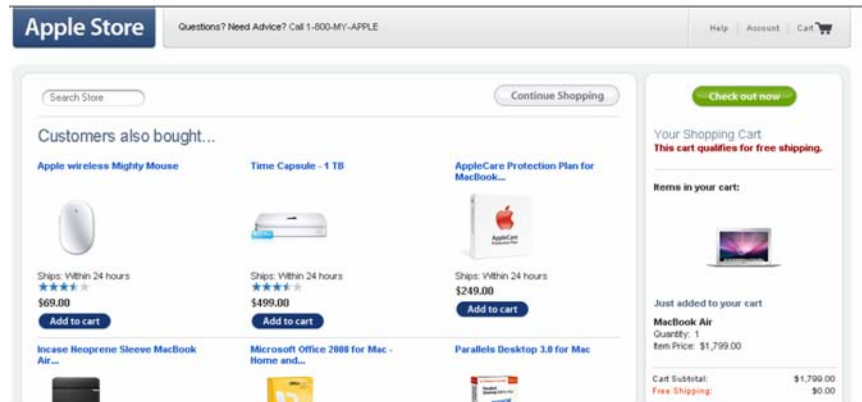
Good conversion architecture, good follow-through

Some e-tailers also use the end of the conversion architecture (the Purchase page) to up-sell more advanced, more expensive versions of the product. They may help customers by presenting products that belong together, such as a wireless mouse or monitor for a new computer, or an ensemble to work with a new jacket.

Online shoppers in the Web 2.0 age are savvy. They've generally bought things online many times and seen a variety of strategies that cross-sell and up-sell to them. HFI's experience has shown that users who have transacted with an e-tailer before feel comfortable with and value the cross-sell, but expect clear calls to action aimed at offering something relevant to them.

Knowing your users and testing the effectiveness of your architecture of persuasion will ensure the timely opportunities to move their experience of power ahead without creating psychological chokepoints.

5. Brand (building or adapting the brand online)

A brand is a collection of images and ideas representing a retailer. Brand experience is made up of all the contacts a customer has had with the brand. In an age when buying online has come to rival, and for many younger users replace, brick-and-mortar shopping, it's more important than ever to make sure that an e-commerce site provides a positive experience that serves to reinforce your brand.

When building a brand in the traditional "offline" way, even the most minute elements of a corporation's marketing strategy, product design, store design, and

store merchandising strategy play a role. The same is true in e-commerce. The "personality" of the site–the look, feel, tone, and features that are part of every page and every action–reinforces the brand. In many respects, the website becomes the brand. A bad site experience quickly becomes a bad brand in the user's mind.

Now if you're just starting a Web-only business, you're not saddled with the brand expectations of an existing brick-and-mortar brand. If you want day-glo colors and flying monkeys on your e-commerce site, that is your prerogative. If you're Neiman Marcus, however, or Best Buy or Williams Sonoma, your customers know your brand already. They will be expecting some relationship between the look and feel of stores and the look and feel of your site.

Ralph Lauren has done a good job of bringing the sporty cachet of its outlets to the Web. The brand imaging is inescapable, as are the calls to action. Barney's New York, a brick-and-mortar beacon of impeccable taste, suffers by comparison. Barney's has not done a good job of transferring the urbane style of its stores to the Web.
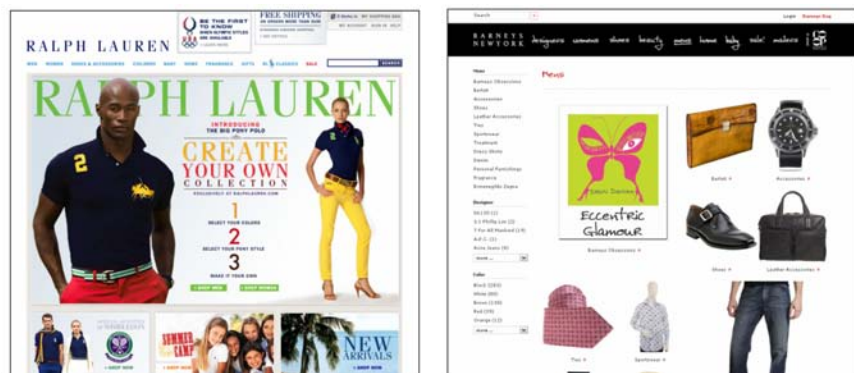
Ralph Lauren stores go onto the Web without breaking stride, but Barney's New York hasn't succeeded as well

Look at the difference in brand name–if you can even see Barney's. And while the Ralph Lauren site imagery gives you a visceral sense of the on-the-go, Polo lifestyle and a call to action to put together a Ralph Lauren collection, one doesn't quite know what one is looking at on Barneys.com, or why.

Apple developed its physical stores only *after* years of selling directly to the public through its online presence. However, Apple fulfilled brand expectations,

maintaining a visual and ergonomic consistency between the two environments with a clean, white layout (similar not only to its site but also its products). Merchandise is arranged, as on its site, in primary, secondary, and tertiary clusters that make things easy to find. Shoppers are guided through the physical store in a logical way to the most popular merchandise, like MacBooks and iPods, all of which they can have meaningful interactions with—checking their email or listening to a favorite song.

The destination "shopping experience" Apple has created in its stores offers customers high "power quotient"

Apple has done a good job with cross-selling at the register in their stores, just as they have online, and Apple Store staff has the same friendly, informed, and slightly quirky demeanor as the content on the website. While this is an extreme example, and Apple a unique brand, there are clear lessons here about connecting online and in-store brand experiences.

However, creating a consistent brand experience is not the only way websites and stores can cooperate to build and enhance the brand. For example, we can leverage both in a single buying process so that customers no longer separate the site and the store into two entities, but identify them as two cooperative parts of a whole.

Merchandisers can connect their brick-and-mortar and Web stores by using one to browse and order, and the other to receive the merchandise. For instance, apparel shoppers can go into a store and try an item on, then actually order it online. Or they can research, select an item at home, and order it from the website, then come into the store to pick it up. This not only provides the customer with choice, convenience, and power over the purchasing process, it reinforces brand by leading consumers from the physical world to virtual world—and vice versa.

When emphasizing your brand, it's still important to keep a sense of balance, making sure your brand doesn't get in the way of usability and power. Sony and Nike both maintain physical stores that are very flashy and tech-heavy. They emphasize that "techiness" to a fault on their websites, violating the rule of balanced rich media with busy and distracting Flash animation.
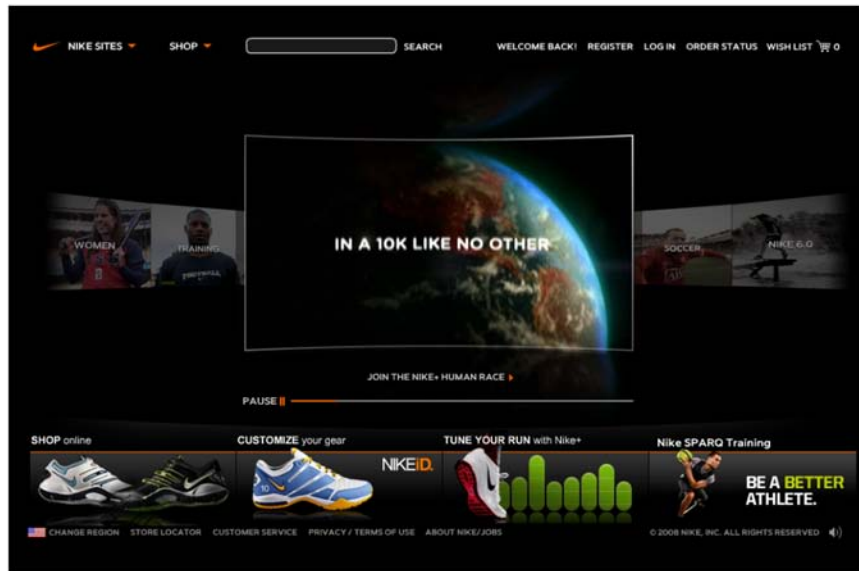
Clear brand...usability, not so much

Evaluating the Dimensions of Your Site

How do you know whether your site is performing well against these dimensions? What if you want to make a change to improve your customer experience and your conversion—*how do you know something new will be something better*?

There are a few tools you can use to evaluate site designs to assure that they are powerful, effortless, persuasive experiences which enhance your brand, before they are released into the wild.

› Expert Review
› Metrics Scorecard
› Usability Testing

Each of these provides excellent insights into how well your design will perform against the dimensions when it's made live to the public, as well as actionable items to improve it.
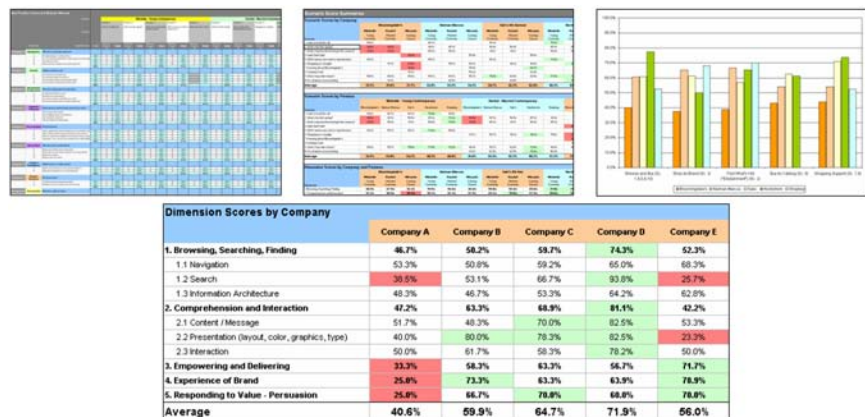
At HFI, we have been working with a long list of major e-commerce clients to evaluate, test, create, and maintain highly usable sites. From that experience, we've developed a set of best-practice metrics that use the five dimensions we have discussed in evaluating the user experience of the site.

Expert Review The Expert Review is conducted by independent reviewers and usability practitioners, using a wide range of proven interface design criteria based on these five-dimensions. It can deliver critical insights into problems the design may have. The 360º analysis of the expert review focuses feedback on flawed workflows through the site and identifies the types of users who might stumble onto those problems.

Among other techniques, expert reviewers will set up user personas and evaluate the design by performing certain sets of tasks, sometimes in comparison with competing retail sites. The results have often contradicted assumptions about how users will navigate and interact with the site.

Metrics Scorecard One of the most powerful tools reviewers possess is the metrics scorecard. Deceptively simple, the scorecard, available in a carefully tailored e-commerce version, has quantitative metrics in a grade-oriented format to evaluate every aspect of the e-commerce user experience.

Dimension Scores by Company	Company A	Company B	Company C	Company D	Company E
1. Browsing, Searching, Finding	46.7%	50.2%	59.7%	74.3%	52.3%
1.1 Navigation	53.3%	50.8%	59.2%	65.0%	68.3%
1.2 Search	38.5%	53.1%	66.7%	93.8%	25.7%
1.3 Information Architecture	48.3%	46.7%	53.3%	64.2%	62.8%
2. Comprehension and Interaction	47.2%	63.3%	68.9%	81.1%	42.2%
2.1 Content / Message	51.7%	48.3%	70.0%	82.5%	53.3%
2.2 Presentation (layout, color, graphics, type)	40.0%	80.0%	78.3%	82.5%	23.3%
2.3 Interaction	50.0%	61.7%	58.3%	78.2%	50.0%
3. Empowering and Delivering	33.3%	58.3%	63.3%	56.7%	71.7%
4. Experience of Brand	25.0%	73.3%	63.3%	63.9%	78.9%
5. Responding to Value - Persuasion	25.0%	66.7%	70.0%	68.0%	78.0%
Average	40.6%	59.9%	64.7%	71.9%	56.0%

The e-commerce scorecard—its summary offers a reality check and a useful set of best practices to model

The scorecard provides a sometimes sobering but always invaluable way to find out how your e-commerce site stacks up against the competition—and where it falls down. Presented in terms of design goals, the scorecard provides an excel-

lent benchmark for enhancing a site's effectiveness. The stark, black-and-white assessment offered by the scores is a useful tool in aligning business owners with usability initiatives, as well.

Usability Testing Another application of these metrics is Usability Testing. It offers a different perspective on your site's performance, either by itself or as a complement to the Expert Review. Whereas the Expert Review uses best prac-tices to drive our evaluation, Usability Testing derives feedback directly from your customers and potential customers. The issues uncovered by user testing can be expressed across the five dimensions (usability, effort, power, persuasion, and brand). HFI has developed a variety of test techniques to capture issues within each of these dimensions, including new methods developed to elicit feedback around Persuasion, Emotion, and Trust (PET).

Whether through Expert Review, Usability Testing, or a combination of the two, the metrics-based perspective of the UX provides a solid baseline for business and design teams to make informed design decisions and prioritize their e-com-merce initiatives.

Effortless + Power = Joyful

Just as we've all had experiences with bad Web design, with sites that were essentially unusable, we've all come across good design, too. A site that is remarkably easy to use, with a minimum of effort required for a maximum of power, engenders a level of customer satisfaction that we might call a joyful experience.

User experience professionals know this joy when they experience it—and often marvel at the ways in which it is invoked. Having experienced it, though, cus-tomers will come back for it again and again. What they're looking for—what we've all been looking for since we first began to walk or ride a bike or harness technology—is a sense of mastery. That is, the ability to make the environment respond to us.

As extraordinary usability designers come to recognize, that isn't simply power the user gains from the shopping experience, nor the singular effortlessness with which he is able to find it. It's not even the degree to which he is captured and immersed in a meaningful exchange.

What creates a truly successful e-commerce experience is a dynamic synergy between all those dimensions—a success-centric viewpoint balancing the user experience goals of power and effortlessness, with the business goals of conversion and brand recognition.

The five dimensions of the user experience provide an integration point for these often conflicting objectives. It is a bridge that is a vital ingredient to e-business success.

Summary

Success-centered design requires a balance of perspectives of business goals and user goals to create mutually successful e-commerce outcomes. In this paper we share a way of thinking about the user experience from five unique dimensions:

Effort & Usability (Dimension 1 & 2)—browsing, searching, finding, consuming, and interacting
The first two dimensions reflect years of user research in the field of usability and focus on the experience of effortlessness—the degree to which the site facilitates ease of use. Optimizing navigation, reducing clutter, keeping the customer focused on your product and services, and providing effective interactions are key to success in these dimensions.

Power (Dimension 3)—meaningful content and interactions
No matter how effortless the experience, users will not be drawn to a site unless it offers them product, content, or features that help them know, do, or get something meaningful. In essence, it is the ability to satisfy a desire that defines the UX dimension of power. Power can be in the form of quality product, selection, price, availability, and meaningful content and interactions.

Persuasion (Dimension 4)—conversion architecture
Online shoppers in the Web 2.0 age are savvy. Our experience has shown that users who have transacted with an e-tailer before feel comfortable and value the cross-sell but expect clear calls to action aimed at offering them something relevant. Knowing your users and testing the effectiveness of your architecture of persuasion will ensure the timely opportunities to advance their experience of power without creating psychological chokepoints.

Brand (Dimension 5)—build the brand

The "personality" of the site—the look, feel, tone, and features that are part of every page and every action—reinforces the brand. A bad site experience quickly becomes a bad brand in the user's mind. Your customers will be expecting some relationship between the look and feel of your stores and the look and feel of your site.

Evaluating the UX Dimensions—the UX metrics scorecard process

We introduced the value of using the five UX dimensions as part of an integrated assessment program using HFI's e-commerce metric scorecards. HFI is currently helping e-tailers improve usability, power, conversion, and brand objectives at the page, sub-site, and site level, resulting in significant increases in conversion, reduced drop-off, and reduced calls to customer support.

About the authors

Phil H. Goddard, Ph.D., CUA
VP, Western Region
Human Factors International

Phil Goddard is VP, Western Region, with 16 years experience in usability, 15 of those with HFI.

Phil was on the Research Faculty at the University of Maryland, College Park, and a Post Doctoral Fellow with the National Institute of Health, and the Medical College of Pennsylvania. He has a Ph.D. in Cognitive Psychology, an M.S. in Cognitive Psychobiology, and a B.S. in Psychology/Biology.

As director of training, Phil developed HFI's training curriculum and usability analyst certification program (CUA). He has published in scientific journals in the field of aging and cognitive performance, and served as reviewer for NCI's usability guidelines.

Phil is expert in all facets of usability engineering and user experience design including techniques for concept design, feasibility, customer definition, sites and application design and assessment, strategic development, usability metrics, usability infrastructure development, management, consulting, and mentoring.

Recent projects have included: financial services, health insurance, consumer user interface, corporate intranets, and e-commerce and corporate identity sites.

Recent clients include: Dell, Macys, Wal-Mart, Toyota, Chevron, Symantec, Kaiser-Permanente, Indymac Bank, DirecTV, Wellpoint, and CapGroup.

Sean McLeary, CUA
Project Director
Human Factors International

Sean McLeary is a Project Director with HFI in the Western Region, and has 10 years experience in the usability field. Sean received his Bachelor of Arts degree in Urban Design from Stanford University. As a key member of HFI's technical staff, Sean has led dozens of projects across many domains including several in the e-commerce space. Recently, he has worked with Macy's, Bloomingdale's, and Dell Computer to evaluate and improve their public-facing websites. In 2006, Sean presented his findings directly to Michael Dell which led to significant improvements in Dell's e-commerce site.

In addition to project work, Sean teaches HFI's web and application design course several times a year and is a Certified Usability Analyst. Sean is not only a usability expert but also has a significant background in Web site and application development. He is often able to translate between "business speak," "user speak," and "technical speak" so that all stakeholders understand the issues at hand and can come to the best solution together.

Recent clients include: Chevron, DirecTV, Symantec, Wal-Mart, Cisco, Intel, and Mapquest.

Douglas Gorney
Senior Writer
Human Factors International

Douglas Gorney is a graphic designer and the collaborative author of five books. He has also written for *Outside* and *Moment* magazines. After several years in the software industry, Douglas is currently working on a book with one of Silicon Valley's leading venture capitalists.

Human Factors
International