Commerce solutions
White paper

Transforming the shopping experience with Web 2.0

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Contents

2 *Introduction*
3 *Understanding the impact of Web 2.0 for online commerce*
3 *Today's Internet users are engaged and participatory*
4 *Transforming the shopping experience with Web 2.0*
5 *Harness active participation and community to reach new customers and stimulate demand*
6 *Harness active participation and community to stimulate demand and build loyalty*
8 *Building loyalty by taking advantage of communities and social networking*
10 *Provide a richer, more effective shopping experience*
12 *Streamline processes and purchasing experience*
12 *Single-page, streamlined purchasing processes*
14 *ROI with WebSphere Commerce Web 2.0 Store Solution*
15 *Summary*
15 *For more information*

Introduction

The Internet has radically affected modern society, changing the way we interact and do business. An estimated one billion people – or one-sixth of the world's population – are online, and the total number of Web pages exceeds 600 billion.[1] The Internet has proven itself as a powerful business engine capable of changing the dynamics of every industry from banking to retailing. In 2005, online retail sales exceeded $100 billion in the United States alone,[2] increasing at a blistering average annual growth rate of 26 percent over the past five years.[3]

The Internet's ubiquity and explosive adoption rate is accelerating the innovation and evolution cycle of both technology and users. Users are no longer passive browsers; they have become active participants in a powerful social community that wields unprecedented power and influence. New content and design principles that focus on reusability are replacing traditional Web-publishing models. Rich Internet Application (RIA) technologies, such as Asynchronous Java™ and XML (AJAX) are replacing static HTML to create sites that radically improve usability and establish rich, interactive environments.

This white paper discusses the concept known as *Web 2.0*, wherein these technologies and trends, coupled with other advances, are driving the next generation of the Internet and online commerce. According to Tim O'Reilly, CEO of O'Reilly Media, Web 2.0 is "the network as a platform, spanning all connected devices. Web 2.0 applications are those that make the most of the intrinsic advantages of that platform, delivering software as a continually updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an 'architecture of participation,' and going beyond the page metaphor of Web 1.0 to deliver rich user experiences."[4]

Regardless of what buzzword you assign this evolution, it is important to understand these changes to take advantage of the next generation of the Internet and e-commerce models.

Understanding the impact of Web 2.0 for online commerce

Web 2.0 technologies and evolutionary trends aren't just going to influence recreational Internet usage, but also have the ability to dramatically affect the way companies interact with their customers and sell online.

Today's online customers are savvy and have high expectations that continue to rise. Customers do not tolerate poor shopping experiences, the inability to quickly find and configure products, discontinuous processes or lost carts. Moreover, customers do not differentiate between the Web and physical channels, viewing both as a seamless representation of the same brand. These savvy and demanding customers necessitate delivering a rich and effective online experience to not only maximize online revenue, but to help ensure that a company delivers a consistent brand experience. Failure to do so can result in significant erosion of brand equity across all channels.

In a recent survey, 82 percent of shoppers who had a frustrating shopping experience reported that they were less likely to return to the online store – not a huge surprise. However, the study also found that 28 percent of respondents stated that a negative online experience made them less likely to shop at the retailer's physical store, and 55 percent said that a poor Internet experience negatively impacts their overall opinion of the retailer.[5] In an environment characterized by fierce competition and decreasing customer loyalty, it is critical to optimize every channel or you risk jeopardizing brand equity.

Today's Internet users are engaged and participatory

Internet users are no longer passive consumers of published information. They have become active participants, openly sharing information and driving powerful social networks of unprecedented size and influence. Internet users employ a number of tools to actively contribute content and voice their opinions using blogs, product recommendations and product ratings. One example of this phenomena is participation in social networking sites that have rapidly gained acceptance and are growing at explosive rates: industry leader MySpace.com grew 230 percent year over year from 15.6 million unique visitors in May 2005 to 51.4 million in May 2006.[6] Other examples include Amazon's millions of customer-generated reviews or Yahoo's three billion song ratings that help create personalized Net radio stations.

Online communities and sites that are designed for user contributions can be described as *architectures of participation*.[7] These sites embrace a number of tools to actively engage users and solicit contributions. Fortunately, today's consumers have become more proactive and are embracing this opportunity to voice their stories and opinions. Tapping into these forums is an art form that can deliver real economic value to both sellers and manufacturers. This white paper explores different methods to take advantage of these opportunities.

Transforming the shopping experience with Web 2.0

By understanding these trends and embracing the innovations associated with Web 2.0, companies can enhance online effectiveness and increase e-commerce revenue. The impact of Web 2.0 technologies to online shopping is illustrated in Figure 1.

	Demand generation	**Personalized experience**	**Browse and research**	**Configure and select**	**Shop and transact**	**Service and support**	**Remarket**
Web 1.0	Demand is pushed to the customer by retailer ads	Non-differentiated services such as address book, shopping lists and so on	Retailer-defined catalog and navigation	Related items selected separately without visual clue for the overall look	Significant dropout due to lengthy multipage checkout	Retailers provide answers to common problems	Focus on retaining the individual customer
Web 2.0	"Word-of-mouth" demand is generated by the community	Personalized user desktop tailored to individual needs	Rich interactive tools to browse and compare augmented by peer reviews	Engaging experience with visualization and product selections	Sales conversion through intuitive single-page checkout	Community helps to solve all problems	Use the customer as an advocate to attract new customers
Web 2.0 themes	Active participation and community						
			Natural shopping experience				
			Streamline processes				

Figure 1. Customer-experience continuum stages

As we examine the impact of Web 2.0 across the stages of the customer-experience continuum, three trends emerge:

- *Establishing active participation and community*
- *Providing a natural shopping experience*
- *Streamlining processes*

IBM WebSphere® Commerce Web 2.0 Store Solution enables you to capitalize on these trends to help you transform the customer experience.

Harness active participation and community to reach new customers and stimulate demand

Customer shopping behavior and product research patterns have undergone a fundamental change. Today's customers rarely begin their shopping or research at branded storefronts. Instead, they start at community or specialty sites. Another important change is that consumers are increasingly placing their trust in peers, friends or colleagues, a practice that now plays a leading role in driving consumer decisions and loyalties. According to the seventh annual Edelman Trust Barometer, a survey of nearly 2000 opinion leaders in 11 countries, the most credible source of information about a company is now "a person like me," which has risen dramatically to surpass doctors and academic experts for the first time. In the U.S., trust in "a person like me" increased from 20 percent in 2003 to 68 percent today. According to Richard Edelman, president and CEO of Edelman, "Companies need to move away from sole reliance on top-down messages delivered to elites toward fostering peer-to-peer dialogue among consumers and employees, activating a company's most credible advocates."[8]

Reaching new customers and stimulating demand mandates a mix of push and pull marketing techniques coupled with harnessing communities and existing architectures of participation.

Tapping into user-pulled demand

WebSphere Commerce Web 2.0 Store Solution is adding Web feed support. Web feeds provide an excellent way of tapping into existing communities to stimulate new demand and establishing effective dialogues with your customers to build loyalty. Web feeds are not a replacement for e-mail marketing, but can be used in conjunction to optimize the delivery of news and messages to your customers. Because feeds are machine readable and use Really Simple Syndication (RSS) or Atom Syndication Format technologies, you can also use them to push updated news and information to partner sites.

With Web feeds, you can deliver a range of information to current and potential customers, from new product announcements to price reductions and promotions or special events. Because feeds are cost-effective and don't require significant infrastructure investments, like e-mail marketing, you should consider them as an integral element of your marketing strategy. Their unobtrusive and flexible nature enables you to effectively reach either broad or very targeted audiences through a wide range of sites, readers and devices.

A range of new techniques in search-engine optimization help enhance search-engine placement to better tap into user-pulled demand. Along with the ability to generate Google-friendly URLs with IBM WebSphere Commerce, Version 6.0, WebSphere Commerce Web 2.0 Store Solution supports integration with Google Sitemap, enabling you to include all the URLs or pages you want "crawled" or indexed.

Harness active participation and community to build loyalty

Traditional online interactions have been largely unidirectional, with sellers presenting information to customers in a product- or event-specific context, as depicted in Figure 2. Advances in online merchandising have improved the ability to deliver highly targeted and personalized information based on user or segment characteristics. These capabilities have significantly improved the overall shopping experience, but the problem is that sellers are still initiating the interactions, with shoppers playing a passive role.

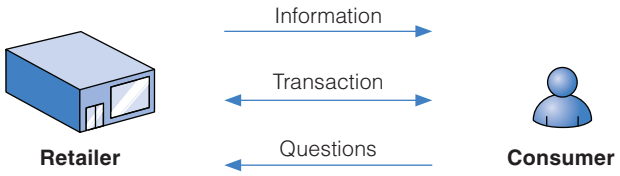

Figure 2. Traditional customer interactions

The goal is to build rich relationships with your customers based on engaged and participatory interactions. As outlined earlier, architectures of participation and engaged customer communities have redefined the way retailers and businesses interact with their customers (see Figure 3).

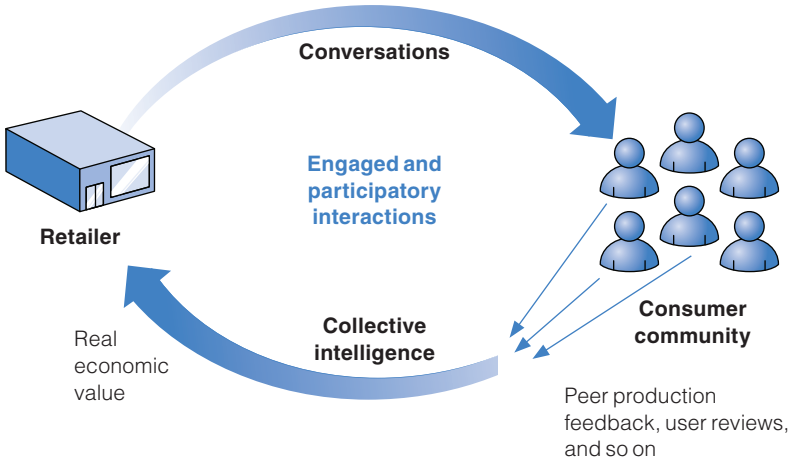

Figure 3. Architecture of participation

Engaged customer communities have created a new form of economic value that today's most successful companies are tapping into. Peer production is a concept used to describe a new model of economic production in which the creative energy of large numbers of people is coordinated into meaningful projects and results, mostly without traditional, hierarchical organization or financial compensation.[9] In the context of online commerce, this concept includes user ratings, product reviews, online user forums, feedback loops and blogs, which have become an increasingly credible and trusted source of information. A recent consumer survey by the JC Williams Group ranked consumer content as the top aid to a buying decision, as cited by 91 percent of the survey's respondents.[10] Think about the economic value of Amazon's millions of user reviews or the useful advice and best practices provided in hundreds of user forums.

As community involvement grows and critical mass is attained, collective intelligence[11] is reached at the point when users act as a filter for what is both valuable and credible. Collective intelligence is important because it overcomes "group think" to deliver clean recommendations, input and insight. With critical mass also comes community self-management or policing. The best example is illustrated by eBay, whose three billion user ratings and feedback comments have created a self-regulating community.

The concept of customer communities applies equally well across the business-to-business (B2B) landscape where communities – such as user groups or professional user organizations – often already exist. The IBM developerWorks® Web site has successfully deployed a range of community features to enhance the brand experience and facilitate the free exchange of information such as best practices and new ideas.

Building loyalty by taking advantage of communities and social networking

Establishing an architecture of participation, especially one that positively contributes to brand image, can be difficult. To help maximize the potential for success, IBM recommends a phased approach to building a community of participants (see Figure 4).

Figure 4. A phased approach to establishing an architecture of participation

The first phase focuses on actively engaging site users. Product rankings enable users to rate a product on a predefined scale (usually 1 to 5) and offer an excellent way to solicit user feedback without having to moderate the process. Embedded business logic helps ensure that each user can cast only one vote and sample sizes can be displayed so that consumers know how relevant the ranking is.

Community tagging enables users to assign personal tags or labels to items and conduct keyword searches that return other user-assigned tags. These tags are generally informal descriptions based on personal categories, usage or lingo that might not otherwise be captured by traditional directory structures and marketing terms. For example, a blouse might be tagged as being "chic", "cool" or "trendy" or slippers might be "cozy." In a B2B context, an electrical motor that can be used in multiple industrial settings might be tagged "fan motor," "belt drive" or assigned the name of a competitive offering or standard item that this product replaces.

The second phase begins to establish an architecture of participation with controlled interactions using blogging, customer reviews and discussion forums. Until you have established a critical mass and better understand user behavior, it is recommended that you moderate discussions to help ensure a positive experience for all users as well as to avoid any brand erosion caused by negative users. Some companies choose to permanently moderate and control these dialogues. If you are not currently staffed to moderate these discussions, a range of companies provide outsourced community-forum management and moderation services.

After you have established an active community and critical mass, you might consider open and unmoderated communities. You can still filter and delete any postings, but the difference is that in an open community all postings are live and users can rank each other's responses, which helps to alleviate unproductive feedback.

The benefits of realizing this level of active participation include enhanced brand experiences, increasing loyalty and providing useful feedback loops on everything from products to services.

Provide a richer, more effective shopping experience

The Internet has proven itself as an exceptional online sales platform; however, the core technology was never designed with the consumer experience in mind. Online shoppers must navigate product-centric catalogs in which their browsing, product selection and overall user experience are limited by static HTML and forced page refreshes. As a result, customers might be frustrated by the overall experience and are often unable to find, configure and select the products they are looking for. This situation has resulted in low conversion rates that hover around 2.4 percent according to the Shop.org's annual survey.[12]

In contrast to static, product-driven experiences, RIA technologies provide the ability to deliver an interactive consumer-driven experience, called the *natural shopping experience*. WebSphere Commerce Web 2.0 Store Solution uses RIA technology to deliver this more natural shopping experience – one that is closer to a physical store experience.

The natural shopping experience focuses on understanding consumer buying behavior and patterns to apply best practices to online shopping environments. Because each customer has a different buying style, unique selection criteria, personal motivations and shopping approach, you must deliver a dynamic experience that accommodates these variations in online environments. You can achieve this goal by empowering customers to select the attributes that are most important to them and by providing interactive tools that easily enable shoppers to find the right products for their objectives.

WebSphere Commerce Web 2.0 Store Solution combines several Web 2.0 technologies to deliver the natural shopping experience. RIA select-and-compare capabilities provide a dynamic shopping environment that enables customers to visually filter products by activating specific parameters based on their unique decision criteria (see Figure 5). Filtering is performed on the fly without page refreshes. Selection criteria can include parameters such as price, size, usage, materials or other attributes to visually sort and narrow the product set until the desired results are displayed. Then, the items that make up the product set can be compared side by side. This capability is particularly effective for narrowing down large data sets or finding the right products when there are many similar products with intricate variations.

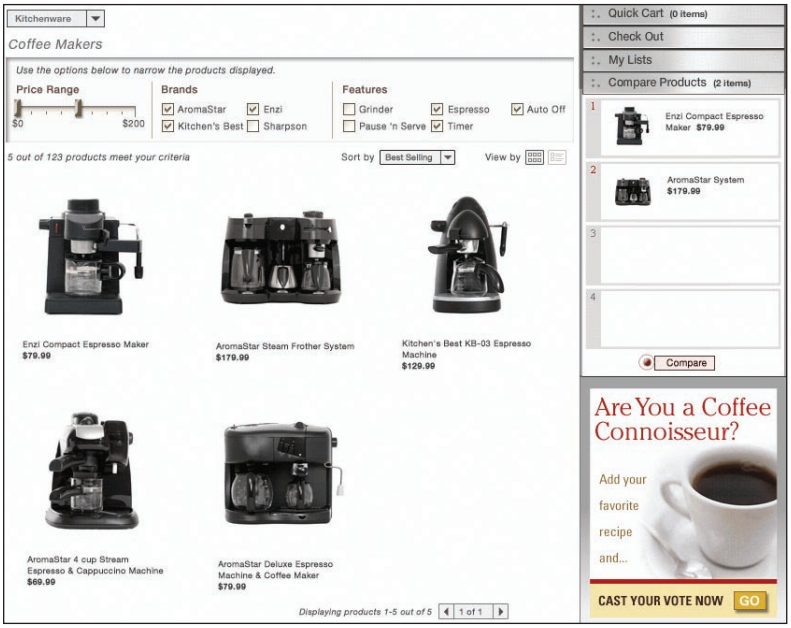

Figure 5. RIA select and compare

Configuration and final selection is further enhanced by RIA mix-and-match capabilities that enable customers to see how different products fit together in specific configurations.

RIA mix-and-match is an integral capability to creating a natural shopping experience because it enables shoppers to see how different products or colors work together, just as they would in a physical store environment. This capability can also help increase cart sizes and cross-sells. And because the RIA technology uses local computing power, customers can quickly select from a range of configurations and almost immediately see the results.

Streamline processes and purchasing experience

Now that you have stimulated demand, established a robust shopping experience and built loyalty through community, it is time to close the transaction. The problem is that many customers abandon their shopping cart at checkout, making this one of online commerce's costliest problems. According to Shop.org's State of Online Retailing 2006, average shopping-cart abandonment rates – which measure the site's ability to close a sale with engaged shoppers – were 48 percent in 2005.[13] Many of these abandonments are driven by frustration caused by the constraints of conventional click-and-load HTML-based user interfaces. Poor usability of shopping-cart processes requiring multiple steps and page reloads to check out, which can distract from the shopping experience and result in abandoned carts.

Single-page, streamlined purchasing processes

WebSphere Commerce Web 2.0 Store Solution offers single-page checkout based on RIA technologies to streamline the purchasing process. This capability can dramatically reduce shopping-cart abandonment and help improve the entire purchasing process.

Single-page checkout enhances the overall shopping experience by providing the ability to simply add products to a shopping cart using drag and drop, as well as the conventional "add to basket" button (see Figure 7). Because the shopping cart is always available and does not require page refreshes to update, users can view real-time results of additions to their shopping carts – enabling them to immediately calculate the effects that cross-sells, up-sells, or alternative shipping options have on their bottom line. Because RIA technologies don't require full page refreshes, this information is provided in near real time. Shopping carts are persistent and saved automatically, preventing cart loss in the event of a dropped connection or connection timeout.

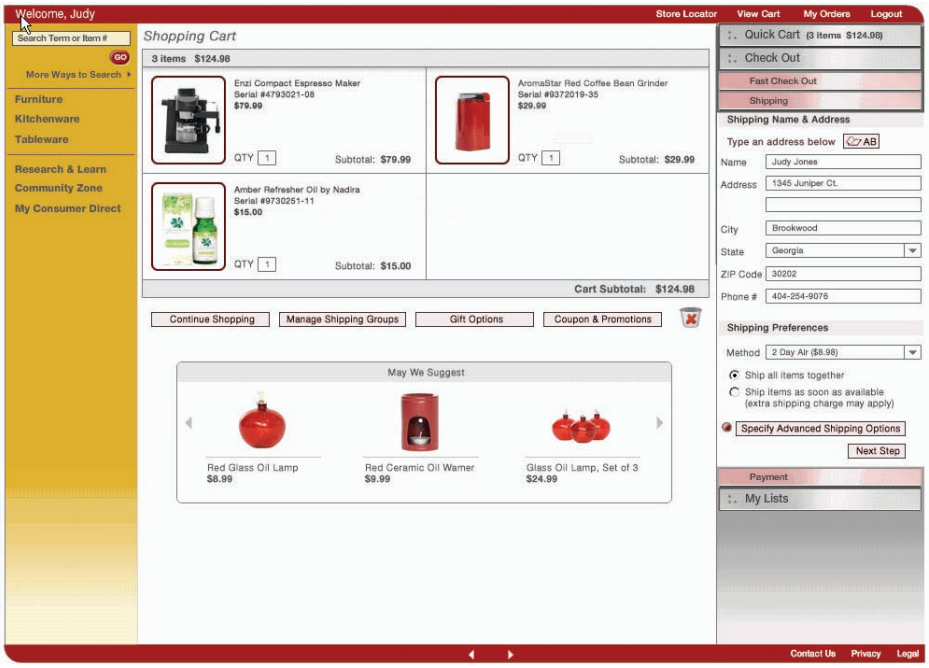

Figure 7. Single-page checkout

When it launched its new site, a discount apparel and home-fashion retailer tested an HTML version of its shopping cart against an RIA single-screen checkout process. The single-screen checkout converted shoppers to a sale 50 percent more often than the HTML version.

Another important tool to streamline the purchasing process is the Store Locator with Google Maps Mashup, which supports buyers who would rather pick up their order in the store or continue the shopping experience at a physical location. The Store Locator with Google Maps Mashup creates a custom map identifying the closest store locations and providing directions. With the integrated buy-online, pick up in-store features of WebSphere Commerce, your customers can quickly pick up their orders in local stores or at dealers and continue their shopping experience on site.

When a user is ready to complete the checkout process, RIA technologies enable that person to efficiently move through each step of the process with one screen. Shoppers aren't distracted by unnecessary, easily hidden fields such as different shipping addresses. They can also easily jump from one step to another or even continue shopping without losing any information they might have entered.

Ultimately, these capabilities enhance customer satisfaction by making it easier to do business, while increasing closure rates by reducing shopping-cart abandonment.

ROI with WebSphere Commerce Web 2.0 Store Solution

Because WebSphere Commerce Web 2.0 Store Solution is designed to take advantage of existing WebSphere Commerce store models, you can deploy it cost-effectively to realize a rapid return on investment (ROI). You can use the simple formula in Figure 8 to quantify the benefits of deploying Web 2.0.

More site visitors
x a higher conversion rate
x a higher average order size
= higher sales revenue and net profit

More site visitors	• Search-engine optimization helps increase new visitors through natural search and integration with the Froogle shopping engine. • Web feeds drive new and existing customers to your storefront. • The enhanced shopping experience delivered by Web 2.0 increases satisfaction and boosts repeat visits.
Higher conversion rate	• An enhanced shopping experience through RIA select-and-compare and mix-and-match capabilities helps improve conversion rates. • The single-page checkout tool helps reduce shopping-cart abandonment.
Larger order size	• RIA mix-and-match capabilities help enhance product bundling.

Figure 8. Formula for determining the benefits of Web 2.0

Summary

Web 2.0 provides a powerful response to today's changing online customer. Establishing active relationships with your customers and enhancing every aspect of the shopping experience will ultimately build loyalty and increase online revenues. Contact your WebSphere Commerce sales representative for more information about the WebSphere Commerce Web 2.0 Store Solution and a personal assessment of how Web 2.0 can help you transform the shopping experience for your customers.

For more information

To learn more about Web 2.0 and IBM WebSphere Commerce Web 2.0 Store Solution, contact your IBM representative or IBM Business Partner, or visit:

ibm.com/websphere/nextgencommerce

To join the Global WebSphere Community, visit:

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