Utilizing Web 2.0 in business

Harnessing consumer tools to benefit the organization

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While Web 2.0 has been a huge hit with consumers, some businesses have been much slower to embrace it. Many companies, however, are now realizing the great potential of Web 2.0 and how Web 2.0 services such as YouTube, Twitter, and SlideShare can provide value to their organizations. See how businesses can exploit the power of Web 2.0 services while simultaneously improving workplace relationships. Empower your employees to share information that helps generate sales leads, aids in recruitment, and assists in strengthening your company’s brand, image, and corporate identity. Explore business-oriented Web 2.0 tools such as LinkedIn and CrunchBase and the Web services and APIs that many of these tools offer, allowing their benefits to be incorporated into other applications.

Web 2.0 tools

Web 2.0 is a somewhat controversial term that is generally used to describe the shift in Web design and development patterns from static, singular, and flat Web pages to dynamic, interactive, and collaborative Web applications. For many, Web 2.0 is the most important collection of concepts when it comes to software and the Internet, but for others it is simply a product of marketing hype. Some say that Web 2.0 ideas have been around since the mid-1990s and point to the likes of Amazon and Yahoo!, who have been providing services that boast the characteristics of so-called Web 2.0 services since 1995 (see Figure 1). The simple fact of the matter is, no matter what your take on the term and its concepts, it is important that you and your business are aware of it and know how to best use it.
There’s no denying that most Web 2.0 services have, until now, been mostly useful for consumers and small businesses. But whether your organization has 10 or 100,000 employees, you can leverage these tools to bring true business value to your company. The likes of Twitter, Delicious, Facebook, Flickr, and Digg may not look like they are all that useful in a business context, but if they are used in the right way they can open new markets and sales avenues that may otherwise have forever remained closed. On top of this, we are starting to see an increasing trend among large software vendors such as IBM, Microsoft, Oracle, and SAP towards producing enterprise-grade Web 2.0 tools and services. By grasping the ideas behind consumer Web 2.0 technologies, you will be more than well equipped to make decisions when the time comes to introduce Web 2.0 into your own enterprise.

Businesses react slowly

In general, businesses have been quite slow to embrace Web 2.0 tools and services. In many cases, this is due to one or more of the following:

- Lack of presence in the market of large software vendors such as IBM, Oracle, and SAP.
- Web 2.0 products tend to be “Beta” products. Companies prefer to invest in finished products than works in progress (see Figure 2).
- The market of Web 2.0 services is flooded with small startups and vendors, making it difficult to assess which of these services will sustain into the future.
- Most of these new tools and services have been marketed to the consumer. As a result, it is difficult to identify the business value of the product.
- Concern that Web 2.0 is merely a buzzword or a fad, and like all fads, it will lose popularity as quickly as it gained it.
These are all perfectly reasonable concerns, and it is quite probable that, like many of the Internet startups from the late '90s, the majority of the Web 2.0 startups that have popped up over the past few years will cease to exist in the not too distant future. Up until now, venture capital firms have been pumping millions of dollars of investment into Web 2.0 startups. With the global economic crisis in full sail, we can expect this to slow down dramatically, with many existing startups suffering from lack of continued investment.

**Figure 2. Many Web 2.0 services glorify "Beta" status with pride**

With that said, many of the other issues that businesses have with Web 2.0 tools are starting to fade away. For starters, the major players are all starting to push enterprise-grade Web 2.0 products to market. The IBM LotusLive suite includes, among other Web 2.0 features, a social networking platform that is targeted at large organizations, allowing them to create in-house social networks and giving employees a method of connecting with co-workers around the globe (see Figure 3). With Oracle's recent acquisition of BEA, it has inherited a product called WebCenter services, which includes a wide range of enterprise Web 2.0-ready software such as blogs, wikis, and discussion forums. As for the issue with Web 2.0 services being "Beta" releases, in many cases these tools can be considered equivalent to final releases. Many providers choose to maintain that their software is always in Beta, as they are continually evolving and improving the product. With Web 2.0, there is no release cycle or upgrade path; you are always using the latest version. As for Web 2.0 being consumer-oriented, many services are now releasing tools that are geared towards business use, and the number of business-specific Web 2.0 offerings available is continually increasing.
Future moguls on Facebook

One cannot discuss the implications of Web 2.0 in the business world without talking about social networking. With the rise of MySpace over the past five years or so, organizations have tended to see social networks as a way for their employees to procrastinate, not only wasting the company’s time and money, but their precious bandwidth also. Ghastly profile designs, countless meaningless comments, and photo uploading have given social networks a bad image in terms of its usefulness in the corporate world, with many companies going so far as to block access to the likes of MySpace, Bebo, and other social networks.

The same negative outlook could have been attributed to Facebook in its early days. Although it looked a lot more professional than its counterparts, with standardized profiles and a single, subtle color scheme, Facebook’s most popular features included “Poke” and “Zombies”, with many user profiles being swamped with useless widgets and applications. However, a major revamp in 2008 led to the bulk of these being swept to a separate area, with the main useful features of Facebook regaining prominence.

While there is still much room for procrastination on the likes of Facebook, there’s no denying that its massive popularity makes it an important consideration for the organization (see Figure 4). According to ComScore, Facebook attracted 132.1 million unique visitors in June 2008. The next great wave of entrepreneurs and corporate executives are more than likely on Facebook, and indeed, many existing CEOs and moguls are using the network every day.
There are many ways an organization can put Facebook to good use. For starters, a business can create its own profile in a business directory known as "Pages". Once you have set up a Facebook Page, users can become a “fan” of your business. When this happens, all of your fan’s friends will be notified on their News Feed, and they are given an easy starting point to follow suit. The more people who become a fan, the larger the number of people who will receive such notifications, and the higher the likelihood that more users will become a fan of your business. This is a great way for spreading awareness of your brand and corporate identity, and it won't cost you a cent. For those with an advertising budget, Facebook offers an excellent advertising program that will give you the ability to precisely target your campaign by gender, age, and location. Once your campaign has begun, Facebook offers a range of powerful tracking tools that allow you to see how successful your ad is and what types of people are clicking on it. Armed with this information, you can easily make changes to your ad to ensure that it delivers the maximum benefit to your business.

Using consumer Web 2.0 tools efficiently

YouTube is the world’s largest online video community, allowing anyone who visits the Web site to watch any of its countless public videos. It’s free to register for a YouTube account, and once you’ve done so you can freely upload your own videos and share them by e-mail or post them on your blog. People who view your video can rate and comment on the video, or if they prefer, they can leave a video response, where they upload a video which they have made in direct response to your video.

According to reports, in 2007, YouTube video traffic accounted for the same amount of bandwidth as the entire Internet accounted for in 2000. There is no question that online video is the future of broadcasting, and you can expect to see a massive increase in online video advertising in the coming years. But what does that mean for your business? The power of online video is going to become a very important marketing tool. Most of the major U.S. television networks are now
making blockbuster shows available for free on Web sites like Hulu and YouTube (see Figure 5), with their revenue coming from a short video advertisement, displayed before the show starts. Do not be surprised if online video marketing replaces its television counterpart in the not too distant future as the predominant form of video advertising.

Figure 5. Businesses use YouTube to publish their video content to the Web

So what business value can YouTube bring to your organization? For starters, companies can use YouTube to do exactly what it says on the tin: to share video content. This includes webcasts, keynote speeches, corporate presentations, video-based training and e-learning, video tutorials, event highlights, and so on. The list of business-oriented content that can be deployed to YouTube is virtually endless. And by uploading your videos to YouTube, you can save yourself expensive hosting and bandwidth costs. YouTube videos can easily be embedded on your organization's Web site, blog, or wiki by copying and pasting a small amount of code. Also, you can upload videos in many of the major video formats, and YouTube will conveniently convert them to Flash videos for you. So you don't have to worry about what format you record in; it's more than likely YouTube will play nicely with it.

Beyond simply putting your videos on the Internet, by publishing to YouTube, you open your content up to the possibility of being spread virally by other YouTube visitors who can view, rate, comment, and even embed your video on their own blogs and Web sites. No longer do potential customers have to visit your Web site to find information about your products or services, as it can be spread throughout the Web simply by hosting your video on YouTube. Of course, you may not want your videos to be seen by the masses if they are meant for internal use only. No need to worry, YouTube allows you to set your videos as "Private", with you defining a list of people who are allowed to view them. If you use Google Apps, you can also use Google Video for Business, a YouTube-based service that allows you to upload and share video with other Google Apps users in your company.

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A product with similar business uses to YouTube is SlideShare. This innovative application allows you to upload your PowerPoint or Open Document Format (ODF) presentations and slideshows to its Web site, and it will generate a simple-to-use Web interface for your presentations. People who view your slideshow on SlideShare can navigate from slide to slide, play the slideshow, view it in full screen, and download it in its original form. Needless to say, SlideShare is an excellent way of spreading interesting reports, keynotes, and presentations, even with users who do not have the same office software installed on their computer.

Another consumer-oriented Web 2.0 service that is becoming useful in the business world is Twitter, a microblogging service that allows its users to update their status in a maximum of 140 characters per update. When it initially launched, Twitter's usefulness was extremely limited, with most updates providing useless information such as what people are eating for dinner. However, as Twitter has grown, so has the power of its community. Twitter users can "follow" other twitterers and will then see those users' updates on their own Twitter timeline every time they log in. This feature has spawned a new way of communicating with other people, and often full blown conversations have emerged as a result of Twitter updates (see Figure 6).

Twitter's business uses include:

- **Information gathering.** If you need the answer to a question, update Twitter with your query and within minutes your network of followers may respond with some interesting answers.
- **Instant polling.** Ask your followers to choose their favorite of three or four options, and you can instantly gather statistics that help you to make business decisions.
- **Recruitment tool.** For those looking to hire, you can post a Twitter update asking your followers if they know anyone with skills in a certain field. A key benefit here is that you may
find potential new hires with the added benefit of personal recommendations from what may be a trusted source.

Twitter is free to use and can be updated via the Web, SMS text message, or by using one of many mobile and desktop applications, including several iPhone applications.

**Take advantage of business-oriented Web 2.0 tools**

Although business-oriented Web 2.0 tools aren't available in the vast numbers that consumer-centered services are, there are still some great offerings available that can benefit your organization. LinkedIn is a social network for professionals that allows people to connect with other professionals, whether they be co-workers, previous colleagues, customers, potential clients, or potential employers. Unlike personal-based social networks, where people focus on sharing photos and interests, a LinkedIn profile is more like a resume, with users detailing their employment and education history. LinkedIn users can recommend other LinkedIn users, which could be considered synonymous with a referee or employment reference on a resume (see Figure 7).

**Figure 7. LinkedIn has become an invaluable tool for many businesses**

However, LinkedIn opens avenues far beyond publishing your CV on the Internet. Businesses can use LinkedIn as a powerful recruitment tool, finding potential employees with the exact talent and skills they require. They can use it to generate sales leads, by finding out who the key players are within target organizations. Your competition is probably on LinkedIn. You can use the public information about their employees to your own competitive advantage.

A business blog is an excellent Web 2.0 tool to use to build a community around your business. By interacting directly with your customers, you can get the sort of honest feedback that you need to improve and evolve your products and services. Why not employ a corporate wiki to share...
information around your organization? Corporate wikis are a key aspect of most enterprise 2.0 strategies, and they can help you to build knowledge within your organization.

Future-proofing your organization with Web APIs

Now you might be thinking, "These Web 2.0 tools are great and all, but there are just too many to keep track of." Fortunately, the majority of Web 2.0 services like Flickr, YouTube, Twitter, Facebook, and so forth, offer open and free Web services that can be consumed by your own business applications. These are usually offered via RSS feeds or RESTful APIs that can be accessed via virtually any programming language. This allows organizations to use the data from these tools in their own applications.

An example of one of these APIs is the CrunchBase API (see Related topics). CrunchBase is basically a large database featuring records of over 14,000 technology companies and almost 25,000 key people within those companies (see Figure 8). The type of information stored in CrunchBase ranges from general company information such as Web site and blog addresses, to the number of employees and when it was founded, to detailed information about the organization's funding.

Figure 8. CrunchBase is a massive database with detailed information about companies

The CrunchBase API allows applications access to all of the information stored in the CrunchBase database. It is free to use and does not require registration. The API provides JSON (JavaScript Object Notation) representations of the CrunchBase data. It is accessed by sending HTTP requests to the CrunchBase API server, with the URL determining the data that should be included in the response.

An example of a request to the CrunchBase API is: http://api.crunchbase.com/v/1/company/ibm.js.
You can try out the API for yourself by clicking on the link above. Depending on your browser, you should either see a large amount of text with data relating to IBM or you should be asked if you wish to save or open ibm.js. If you experience the latter, click on Open to view the file and you should see that data. Listing 1 is a snippet of the response for the above request.

**Listing 1. Response for request**

```json
"name": "IBM",
"permalink": "ibm",
"crunchbase_url": "http://www.crunchbase.com/company/ibm",
"homepage_url": "http://www.ibm.com",
...
"number_of_employees": 388000,
"founded_year": 1896,
... "phone_number": "914-499-1900",
"created_at": "Fri Mar 14 22:55:52 UTC 2008",
"updated_at": "Sat Sep 06 16:06:04 UTC 2008",
"overview": "IBM, acronym for International Business Machine, is a multinational computer technology and consulting corporation. The company manufactures and sells computer hardware and software, and offers infrastructure services, hosting services, and consulting services in areas ranging from mainframe computers to nanotechnology."
...
"products":
[
  {"name": "Lotus Notes",
   "permalink": "lotus-notes"},
  {"name": "Lotus Sametime",
   "permalink": "lotus-sametime"},
  {"name": "Lotus Connections",
   "permalink": "lotus-connections"},
],
"relationships":
[
  {"is_past": true,
   "title": "Chief Strategist, Identity Management",
   "person":
    {"first_name": "Jeff",
     "last_name": "Curie",
     "permalink": "jeff-curie"},
  {"is_past": true,
   "title": "Developer of processor targeting 3G handsets",
   "person":
    {"first_name": "Olivier",
     "last_name": "Schuepbach",
     "permalink": "olivier-schuepbach"},
  ...
"competitions":
[
  {"competitor":
   {"name": "BEA Systems",
    "permalink": "bea-systems"},
  ...
  {"competitor":
   {"name": "Oracle Corporation",
    "permalink": "oracle"},
  {"competitor":
   {"name": "Sun Microsystems",
    "permalink": "sun-microsystems"},
  ...
```

If you read through the response you will see some interesting information, such as the number of employees in the company, a description, and lists of products, relationships, and competitors.
This data is all returned in JSON, which can be translated using JavaScript into easy-to-read data in your own Web applications that is updated every time CrunchBase is updated.

This API is just one example of the many useful APIs out there for retrieving useful information from alternative, Web 2.0 data sources. By consuming data from multiple APIs you can create rich mashups that rely on continually updated data from different sources. These APIs can add a huge amount of value to your business applications.

**Summary**

This article discussed the concepts behind Web 2.0 and how they apply to business. You have seen the reasons why organizations have hesitated to jump on the Web 2.0 bandwagon, and why slowly but surely major software vendors are starting to produce enterprise-grade offerings that will ensure large businesses' adoption of the concept. We investigated the love-it-or-hate-it world of social networking and looked at how the next generation of top executives are using Facebook to create connections today. You saw that although most Web 2.0 services available today are geared toward the consumer, they can be used to bring true business value to your organization, and if used the right way, can help to increase awareness of your brand and corporate identity, with the overall result of increased revenue and profit. We then looked at LinkedIn, an excellent Web 2.0 tool that is specifically aimed at business, with excellent uses in areas such as recruitment and sales. Finally we looked at the area of Web APIs and how exploiting them allows organizations to tap into multiple Web 2.0 data sources to enhance their own business applications. With all this information, you should be ready to start exploring Web 2.0 options for your company and will be ready to answer the inevitable questions that will ensue over the coming years, as Web 2.0 in the enterprise finally starts to take off.
Related topics

- **What Is Web 2.0 -- Design Patterns and Business Models for the Next Generation of Software**: Read Tim O'Reilly's seminal piece on Web 2.0.
- "**Web 2.0 user interface technologies**" (Sam Thompson, developerWorks, January 2007): Learn how to build server-deployed applications for better-than-browser user experiences.
- **Webcast: Info 2.0 -- Harnessing the power of Web 2.0 and enterprise mashups** (Lauren Cooney and Sriram Padmanabhan, developerWorks, February 2008): Learn how to pull information from databases, departmental information, and the Web to create mashups critical to your company's success.
- **Creating real business value with Web 2.0**: Dion Hinchcliffe debunks some of the myths surrounding Web 2.0 in his ZDnet blog.
- **Web 2.0 Has Corporate America Spinning**: Learn what every CEO needs to know about the array of new tools that foster online collaboration in this BusinessWeek article.
- **Using Web 2.0 for business**: Learn how Web 2.0 technologies can fit into your business in this Computer Weekly article.
- **Two views of Web 2.0 in business**: Read Nicholas Carr's blog entry on how Web 2.0 is being broadly and rapidly brought into enterprise.
- **ABC: An Introduction to Enterprise 2.0**: Get the lowdown on Enterprise 2.0 in this article by Ron Miller.
- **Enterprise 2.0 To Become a $4.6 Billion Industry By 2013**: In this article, Sarah Perez cites a Forrester Research report on the explosive potential of Enterprise 2.0.
- **The Trends Underlying Enterprise 2.0**: Andrew McAfee, who coined the phrase Enterprise 2.0, explores the question of why Enterprise 2.0 is an appealing reality now.
- "**Real Web 2.0: Bookmarks? Tagging? Delicious!**" (Uche Ogbuji, developerWorks, October 2006): Learn how to work with del.icio.us, one of the classic Web 2.0 sites, using Web XML feeds and JSON, in Python and ECMAScript.
- Get the **IBM Web 2.0 Developer kit**: IBM's Web 2.0 solutions are already helping businesses apply Web 2.0 technologies across the globe to gain a competitive advantage.
- The **CrunchBase API** is a free, no-restrictions, no-accounts, versioned, JSON-based API for information about startups, VCs, and entrepreneurs.

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