



## WEB 2.0: A PRIMER FOR BUSINESS AND GOVERNMENT

Is it just another marketing buzzword, or is Web 2.0 an essential part of your strategic and tactical toolkits? Stamford Interactive removes some of the mystique behind Web 2.0 applications and explains how you can leverage Web 2.0 to offer value to your customers and staff.

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## INTRODUCTION

“Web 2.0 has begun to offer serious business benefits. Understand what’s out there and how you can use these tools to your advantage.”

Web 2.0 refers to a new way of using the internet. The term has been widely used since 2004, when it was coined to describe a second generation of websites with greater interactivity than the relatively static websites common before the dot com crash era. Web 2.0 sites emphasise collaboration, sharing and community-driven content.

Simply put, rather than pushing information out, a Web 2.0 approach encourages a two-way stream of communication, whereby people contribute to a website’s content as well as receive content from the site. In this way, many sites that use Web 2.0 features have been successful in capturing the collective intelligence of their users by utilising such approaches as blogging, tagging, wikis, social networking and mashups.

Web 2.0 technologies are used to great effect on successful sites like YouTube, Facebook and Twitter in which people can easily interact with each other, publish content, collaborate and share information. But other than finding out what your friend thinks of the latest release movie or seeing video footage of someone’s big night out, Web 2.0 has also begun to offer serious business benefits.

In this white paper we describe the various technologies, discuss risks and benefits and provide real life examples so you can gain an understanding of what’s out there and how you can use these tools for your organisation’s advantage.

# SOCIAL BOOKMARKING & TAGGING

“Social bookmarking takes the humble Favourites menu to a whole new dimension.”

“Tagging can help you understand how the market perceives your brand and improve your search engine rankings.”

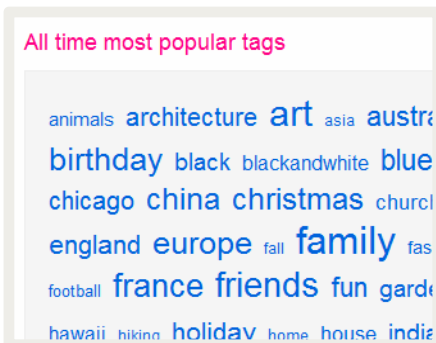


Figure 1: A tag cloud from Flickr

## What is it?

You might think that bookmarking has been around since the prehistoric days of the web, and that this is nothing new. However social bookmarking takes the humble Favourites menu to a whole new dimension.

For example, if you are planning a holiday, you might collect links to websites related to hotels, destinations, tour operators and airlines. Social bookmarking enables you to store and organise all these bookmarks on a single website where you can share your collection of links with other interested people, as well as access their collections of links. The benefits come from being able to access your bookmarks from any computer and draw on the existing research of all the other people who use the site.

But there's more to it than just storing links; growing collections of URLs need to be organised in some way. This is where tagging comes in.

Tagging allows people to assign keyword descriptions to web content in order to collectively classify, rank and find content in a taxonomy that is personally meaningful (sometimes known as a folksonomy). Often, collections of tags are displayed as a tag cloud, a form of navigation where the font weight or size of each tag (word) is proportionate to the number of times it has been used. An example of a tag cloud is shown in Figure 1.

The result is a purely user-generated information categorisation system that employs the vocabulary and mental models of the user population.

You can see folksonomies and tagging in use at LibraryThing, Delicious or Flickr.

You can also experiment with tag clouds by creating your own at TagCrowd<sup>1</sup>.

## How can I benefit?

Tagging can help you assess how the public perceives you by seeing which words people use to tag your company website on popular tagging sites such as Delicious and Flickr. This information is useful when buying search words or changing the language on your website to improve its search engine optimisation (SEO).

You can also benefit from tagging your business with terms that embody how you want to be perceived.



Figure 2: CSIRO encourages users to tag content using social bookmarking sites

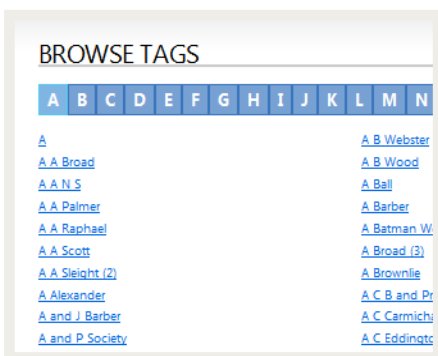


Figure 3: National Library of Australia's Australian Newspapers website

You may incorporate tagging into your own site. This can offer significant benefits to SEO because tags are textual links and keyword rich. It also provides an enhanced user experience as you are providing an additional means of navigating content. Organisations such as universities, or corporates with volumes of specialist material (like electronic journals), might consider tagging as an additional way for users to locate items within large collections. Providing people with an easy way to bookmark your site by offering links to sites like Delicious, StumbleUpon and Digg is a low risk way for you to increase your profile on these sites and encourage increased traffic to your site.

AddThis<sup>2</sup> is one such organisation offering downloadable buttons to place on your site to allow users to add your content to social bookmarking sites and share it with others.

## Who's using it?

Many different types of organisations use tagging and social bookmarking to help users navigate the site, present a more user-centred navigation system and encourage increased site traffic.

For example, CSIRO encourages users to share content by placing links to relevant social bookmarking sites at the bottom of the page<sup>3</sup>. When users tag interesting content on sites such as Delicious, they are promoting discussion of the CSIRO page content to other Delicious users who may also be interested in the same subject matter.

Libraries and government archives often make great use of tagging as a classification system. For example, the National Library of Australia's Australian Newspapers website<sup>4</sup> makes effective use of tagging and tag clouds as one navigation method.

Australian government site Austrade<sup>5</sup>, combines tagging with their blog. Users can access relevant articles through a tag cloud located throughout the blog.

The Powerhouse Museum in Sydney is also experimenting with tags. Recognising that museums often categorise items in a specialist, academic way that may prevent people locating items of interest, they are currently offering site visitors three ways of using tags; user-generated, Flickr-generated and autogenerated. Experiment for yourself at the Powerhouse Museum's collection and research section<sup>6</sup>.

#### Tags

360 deals Agents ARIA Awards blogs Call to action  
Case Studies credit crunch digital media Economist  
Intelligence Unit EIU Email funding google grant  
Independant Record Labels Independent Agents  
Intellectual Property interactive IT industry  
competitiveness japan keywords Major Record  
Labels **Music Music**  
**Industry** Music Supervisors New York  
page rank Performance Rights publishing  
Publishing Companies Record Labels  
Research & Development RSS Search Engines

*Figure 4: Austrade uses a tag cloud to help users navigate its blog entries*

## Any pitfalls?

As with other social technologies, tagging can be used effectively by a business, but not controlled. While you may tag your bottled water product as 'healthy', someone else may tag it as 'environmentally irresponsible'. However, there is simply no way to stop your brand being tagged, so it is better to listen and become involved than to ignore the tagging phenomenon.

“Harness the power of conversation to build your brand, reduce costs, recruit staff and gain market insight.”

### What is it?

Social networking sites bring individuals who share similar interests together into online communities. People connect to each other through these sites overcoming physical barriers to association, like location.

The sites dominating this field, Facebook, MySpace and Bebo, have been extremely popular with the under 25 demographic, though as these sites have become more mainstream, they are increasingly being used by a broader demographic. Professionals have also jumped on board, using sites like LinkedIn to network and advance their career.

Each of these sites offer members the ability to upload content and information about themselves and connect with friends, colleagues and others who share their interests.

### How can I benefit?

A common problem for large organisations, particularly those that span a wide geographical area, is that staff find it difficult to network with each other and collaborate on projects. Consequently, these organisations find there is a great deal of wasted effort as staff members duplicate work or research that has already been undertaken by another part of the business.

Social networking in large organisations can be used to create communities of interest that are independent of geographical boundaries or corporate silos. Using a social networking approach within an intranet can help people develop deep professional networks within their organisation, and facilitate information and resource-sharing with other staff members.

A site dedicated to professional networking is LinkedIn. Used by professionals to list details of their career history, it helps people manage their own professional networks while also taking advantage of others. Use it to find prospective employees (or check their credentials); find business opportunities and foster your professional network.

Businesses can also take advantage of the marketing aspects of social networking sites by maintaining a presence on sites like Facebook through a profile page or developing an application that can be used by site members.

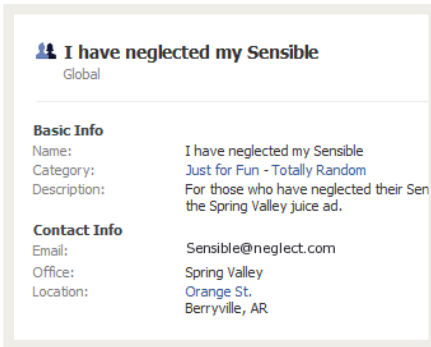


Figure 5: Juice manufacturer Spring Valley used Facebook as part of its marketing strategy



Figure 6: Melton Shire Council used Facebook to promote a community festival

Social networking sites can provide ways to:

- connect with a new audience and deepen your relationship with an existing one
- generate sales
- improve and manage your brand
- gain knowledge about your company, products, competitors and audience
- meet peers
- increase your attractiveness as an employer
- raise your profile.

The key thing to remember about using social networking for business is to change your traditional marketing campaign mindset to one of creating and maintaining relationships and conversations.

## Who's using it?

Juice manufacturer Spring Valley used Facebook as part of their marketing strategy by developing an application<sup>7</sup>. The application enabled people to create their own "sensible", a small animated character who could be imported into Facebook and allowed to roam freely through a member's Facebook profile. This approach would have enabled Spring Valley to market the brand through users' own personal social networks, potentially providing the opportunity to reach an enormous number of engaged consumers for a comparatively small cost.

In Victoria, the Melton Shire Council has used Facebook to promote a local festival<sup>8</sup>. A profile was created for the Djerriwarrh Festival mascot, Djerrri, and used to leverage the exposure of the festival within the community. Facebook members could then leave comments about the festival, which would be seen within their own networks.

Victoria's Office for Youth uses a range of social media to great effect. Specifically, MySpace has been utilised to further promote youthcentral.vic.gov.au<sup>9</sup>. Through having a MySpace presence Youthcentral has gone to where the target audience is, rather than expecting them to come directly to the Youthcentral site. The Office for Youth are also about to launch a YouTube site as a platform for their existing video material, linking back to Youthcentral in order to guide their young audience to further youth-related information. Both these strategies not only put Youthcentral in the hub of the action, but they also increase SEO.

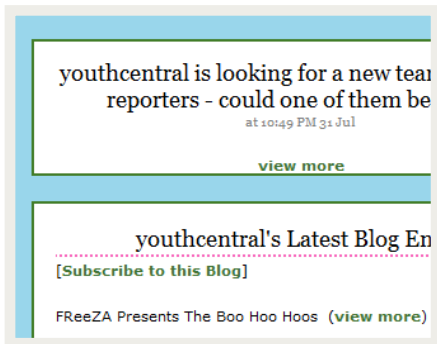


Figure 7: Youthcentral uses MySpace to reach their target audience

## Any pitfalls?

Social networking should not be adopted just because it seems like the latest fad and you want to keep up with the pack. It should be used to help solve a business problem or present a real opportunity for the business. Like any business tool its effectiveness depends on how it is applied.

Do your research first. Know who uses these sites and understand what you are trying to achieve by being a part of it. Is it appropriate for your business and business goals? Have you got the resources to properly service your presence on these sites? Like any undertaking, developing and maintaining a social networking presence takes time and the right resources in order to provide an optimal user experience and a successful outcome for your organisation.

Other main risks revolve around reputation, power and control:

### Losing control of information flow

Businesses, especially senior management, tend to worry about losing control about what is being said. Better to be a part of the conversation than wonder what is being said behind your back. You can also monitor various sites by using a tool such as Social Mention<sup>10</sup>.

### Not being true to your brand or your target audience

People will see through any phoniness so don't pretend to be something you're not. Be mindful that the fall-out from an ill-conceived campaign can have a huge impact on your brand and reputation.

### Public loss of face

You may not succeed at your first attempt or you may be on the receiving end of negative comments, but this is a risk with any new undertaking. Be prepared for the good and the bad feedback and learn from your experience.

### Power shifts

The power in the organisation may shift from one party to another or even outside the organisation. How will you plan for this?

# MICROBLOGGING

“Twitter can be used to monitor public feeling about your company or, by tracking your company, to see a constant feed of real-time data.”

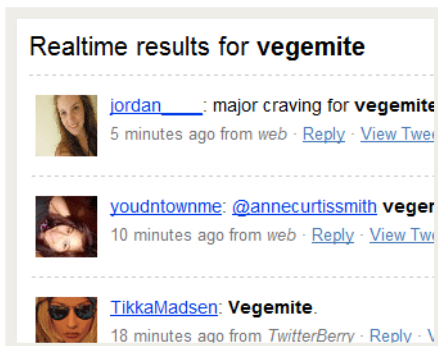


Figure 8: A search on the word "Vegemite" on Twitter shows what people are saying about the product

## What is it?

Microblogging allows people to broadcast short messages via the web or mobile phones. It uses a similar model as many social networking technologies, in that users create communities of interest within a microblogging site.

Some popular microblogging sites are Twitter, Yammer and Yakkering.

## How can I benefit?

Business can use microblogging services to keep people informed about happenings and promotions. Some businesses use Twitter as a way of engaging in dialogue with their clients, via the public reply facility.

Twitter can also be used to monitor general feeling about the company - tracking the search term 'Your company' allows you to see a constant feed of real-time data about what people are saying about you.

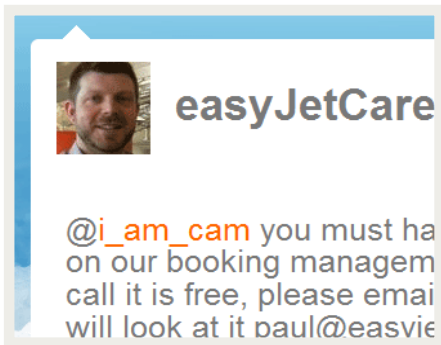
One service that has tailored the microblogging concept to the professional market is Yammer. Their site enables businesses to create private microblogging communities within their organisations. It enables employees to connect with each other by posting short status updates, and share information by creating social networks within a company.

Other organisations have harnessed microblogging as an additional weapon in their customer service arsenal, responding to complaints in a timely and public manner, putting out sparks before they become bushfires.

The real-time immediacy of microblogging services provides great pressure for businesses to address concerns as they arise. Mobile internet devices also mean that people can microblog "in situ" as the event is occurring, rather than waiting until they are at a desk in front of their PC. This presents a rare opportunity for you to offer outstanding customer experience outcomes.

## Who's using it?

Low cost European airline easyJet is one company that has used Twitter to build and strengthen relationships with their customers. When a Twitter user posts a message (known as a "tweet") that contains the word "easyJet", customer service representatives immediately respond. This gives them the opportunity to address negative customer service experiences before the flames spread through an exponential range of social networks. The process is completely transparent, and any Twitter user can view the original complaint or compliment, and easyJet's response.



*Figure 9: EasyJet uses Twitter to communicate with customers and answer questions*

For example, while kept waiting at an airport, one angry customer tweeted "2 hours later and we've still not taken off. No apologies either! easyJet suck!". Soon after this tweet was posted, easyJet responded with "Sorry about this delay and no apology, I can assure you we are very sorry. Where are you flying from and to?"<sup>11</sup>

Real-time information from microblogging sites has even been used in the Australian Parliament. Prime Minister Kevin Rudd has been known to refer to Twitter "tweets", or comments, from members of the parliamentary press gallery during question time. In this way he was able to use real-time information from a social network to launch an attack on an unprepared opposition<sup>12</sup>.

The well known governor of California, Arnold Schwarzenegger, recently used Twitter to ask citizens how to fix the economy<sup>13</sup>, while closer to home, both Victoria<sup>14</sup> and NSW Police<sup>15</sup> use it to communicate alerts and appeal for information.

## Any pitfalls?

Microblogging provides you with a direct and immediate contact point with your customers, so all communication should be carefully considered before posting. Although a timely response is required, it needs to be a reasoned one.

Be clear with employees about your policy regarding personal versus company microblogging. You will need to develop guidelines for appropriate use and understand what the boundaries are (if any) between acting as a private person and acting as an employee.

You should also make it clear to people following you on the microblogging sites what your purpose is. If you are just going to be posting media releases, don't set the expectation you will be answering questions as well.

Inappropriate resourcing (too little attention paid to your presence or the wrong resources assigned to it) will hamper your efforts to make the most of this technology and will impact your brand in a negative manner.

“Blogs build brand personality and enable rapid response to developing situations.”

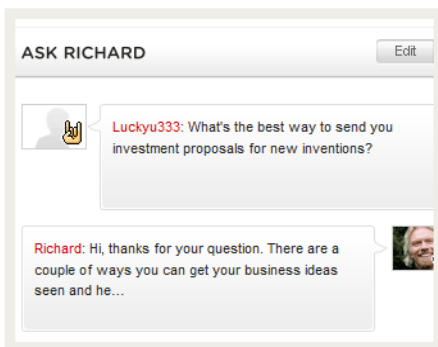


Figure 10: Richard Branson has a dedicated blog used to answer the public's questions

## What is it?

A blog is an online journal that contains entries that are written over time. Generally updated in a deeper manner than their cousin, the microblog, they offer another means to communicate directly and responsively to your audience. While blogging started as an evolution of the personal website, its use has expanded into the corporate sector, with many organisations using blogs to communicate to their staff and market to customers.

## How can I benefit?

### Establish brand personality

The personal tone of blogs makes them an excellent way to communicate brand personality to readers. Blogs by their nature are relatively informal, written quickly and often, and speak directly to the reader.

### Engage in conversation

Like many Web 2.0 technologies, blogs encourage two-way communication from users. A key characteristic of a blog is the ability for readers to comment on each entry. This offers you a great opportunity to engage in conversation with your customers and build relationships as well as gain insight into your products, service and company.

### Position as a thought leader

Companies who blog regularly about trends within their industries are seen to be actively engaged with their field and their peers. This thought leadership position can ultimately carry over to the company's brand as a whole.

Blogs also enable you to respond quickly to industry developments as they occur. The immediate nature of a blog entry means they are a great way to respond quickly to issues that arise in the media. As good blogs tend to develop a readership base over time, they enable you to quickly disseminate information to the public.

## Current blogs

Keep an eye out here for new blog announcements above.

## Previous blogs

### Climate Change

[Australia's Hospital and Health Care System](#)  
[Remote and Rural Health Care System](#)

You can no longer post to these blogs. To read the di below or visit the [Media Centre](#).

Figure 11: The Australian Prime Minister's blog

## Latest discussion comments

Simon Bonnell in [Telstra's transformation](#), 28 Aug 09  
Grahame, that's the double edge sword of...

Fernando Dias in [Government National Broadband Netw](#), 28 Aug 09  
Robbie, "I do sympathize with you, but that..."

Robbie Stephens in [Government National Broadband Ne](#), 27 Aug 09  
Tom GK, I do sympathize with you, but that..."

Grahame Barclay in [Telstra's transformation](#), 27 Aug 09  
...

Figure 12: The Telstra blog, "Now we're talking"

## Search engine optimisation

As a blog grows, you own an increasing body of valuable content which can be used to optimise your site's search engine rankings. This can broaden the scope of users who find your site. For example, rather than searching exclusively for the company name or words related to the company's field of expertise, a blog creates many more entry points to your company's website.

## Who's using it?

US air carrier, Southwest Airlines, runs a blog called Nuts About Southwest<sup>16</sup>. It is written in a fun, casual, conversational tone which reflects the spirit of the airline. A number of staff members write for the blog, and it even has the odd contribution by customers. Richard Branson from Virgin also has a dedicated blog which seems to be used to answer questions from his admirers<sup>17</sup>.

On the political front, our own PM has a blog where citizens can post their comments on the current issue under discussion<sup>18</sup>.

Telstra's "Now we're talking" blog site enables Telstra staff and customers to exchange thoughts and ideas<sup>19</sup>. It's a way for staff to talk about what they're passionate about (no doubt this increases their job satisfaction) and for others to engage with the people and the brand.

## Any pitfalls?

There are a number of risks associated with blogs but many can be overcome through good moderation and appropriate resourcing. Some of these risks include inappropriate or negative comments being made, overly frequent posting by particular individuals, a lack of interest by the market and poor upkeep of content either through lack of time or poor resourcing.

“Aggregation benefits both the website providing the content and the website displaying it.”

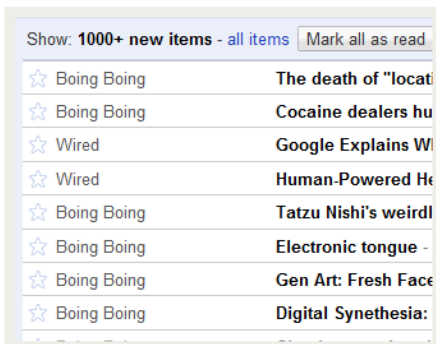


Figure 13: Google Reader enables users to aggregate relevant content from many sources on a single page

## What is it?

Also referred to as web syndication, aggregation refers to the ability to gather together your favourite online authors or news sources in a single place. A feed aggregator, also known as a feed reader, news reader or search aggregator, is a web application that collects and provides a consolidated view of the content within a single browser display, or desktop application.

Content aggregation hit the mainstream through the use of RSS (Really Simple Syndication) technology. This technology enables content from multiple sources to be translated into a consistent format so it can be displayed in a single location.

Feed readers come in a number of forms. Google offers a popular feed reader as part of its iGoogle suite of applications<sup>20</sup>. From a central Google profile page, you can view summaries of recent posts from blogs, websites, or news sites that are related to your own interests.

Some email software such as Microsoft Outlook 2007 and Mac Mail enable users to aggregate RSS feeds right in the email client. With RSS, summaries of content are delivered to you, and then you decide which articles you want to read by clicking a link.

## How can I benefit?

Aggregators reduce the time and effort needed to regularly check websites for updates. Once subscribed to a feed, content is automatically updated at user-specified intervals. Unlike pushed information, that is sent via email or instant messaging, recipients of aggregated content can easily unsubscribe from the feed.

Aggregation benefits both the website providing the content and the websites displaying it. For the receiving site, content aggregation is an effective way of adding greater depth and immediacy of information to its pages, making it more attractive to users. For the transmitting site, aggregation drives exposure across numerous online platforms. This generates news traffic for the transmitting site, making syndication a free and easy form of advertising.

Aggregation enables content creators to repay the cost of producing content by licensing it across multiple publishers or by maximising distribution of advertising-supported content.

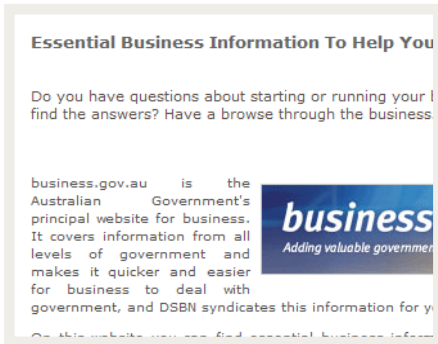


Figure 14: DSBN includes aggregated content from business.gov.au

Distribution partners benefit by receiving content either at a discounted price, or for free. For users, aggregation enables the production and maintenance of content which allows them to find and consume said content.

Examples of aggregators include Google Reader, NewsGator<sup>21</sup>, RSSexpress<sup>22</sup> among many others.

## Who's using it?

Business.gov.au is a government site that actively promotes the syndication of its content. This site encourages other websites to aggregate its content in order to increase the dissemination of information on the site.

On the other side of the coin, the Dynamic Small Business Network (DSBN) is one site that uses aggregation technology to bring together articles, business tools, useful downloads, small business information and information on events and seminars from business.gov.au<sup>23</sup>. The service adds significant value to the website, offering visitors a complete and comprehensive portal for small business information. It is a tool used by DSBN to provide up-to-date government information to business.

Other examples of sites providing content aggregation tools include BBC News and the Australian Taxation Office (ATO).

## Any pitfalls?

A potential drawback for content creators is that they can lose control over the presentation and context of their content when they syndicate it to other parties. Additionally, publishers may find that the content is duplicated at other publisher sites, and they cannot have exclusive use of the content. Some users may run into duplicate content which may be a source of annoyance.

“Wikis lend themselves well to business settings as their collaborative approach helps people work together on a single project.”

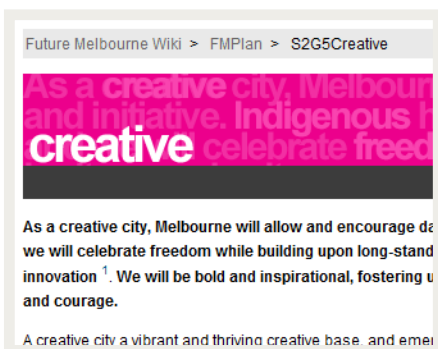


Figure 15: The Future Melbourne Wiki

## What is it?

A wiki is a collaborative online platform that can be used to store and share information. Wikis allow for easy creation and editing of any number of web pages within the browser. A wiki is not a carefully crafted site for casual visitors; rather it seeks to involve the user in an ongoing process of creation and collaboration. By clicking an “Edit This Page” button, users can make their own changes to a document, so instead of presenting static content produced from a single author, wikis help capture the collective intelligence of their users.

## How can I benefit?

Wikis lend themselves well to business settings, as their collaborative approach helps people work together on a single project. Organisations often use wikis as part of an intranet or knowledge management system. The collaborative nature of wikis means that information can represent the collective ideas of a group rather than the independent thoughts of an individual.

Information about resources and equipment can also be shared enabling people to have greater insight into what facilities are available to them across the whole organisation or beyond.

## Who’s using it?

General Motors uses a publicly-edited wiki to capture the living history of how people interact with its brand and products<sup>24</sup>. Wiki visitors are encouraged to add their own page and tell their personal stories about their favourite GM cars, highlights during a career working for the company, or any other stories about GM they may have.

The City of Melbourne has also run a successful wiki project. The Future Melbourne wiki<sup>25</sup> was used as a consultation and collaboration tool to gather input from the public. The City of Melbourne found that, unlike traditional consultation via public meetings and submissions, online participation via the wiki was able to occur 24 hours a day, 7 days a week.

## Any pitfalls?

Wikis can present an enormous cultural shift to some organisations that have an entrenched top-down hierarchy. The concept of being able to edit someone else's content without an approval chain is truly revolutionary for some organisations, so the introduction of a wiki into the workplace needs to be undertaken with some care.

Make sure you fully explain the concept of a wiki to staff before it is launched, otherwise it is likely to be treated with suspicion or avoided altogether. The open nature of a wiki can mean that some people may be sceptical about the reliability of the wiki's contents, so make sure that staff are comfortable with the concept before they start using it. The same open nature tends to make the wiki self regulating and incorrect information is usually quickly discovered and corrected by other contributors.

Publicly-editable wikis pose a new set of problems. Without adequate safeguards, these wikis can become targets for vandalism or attack. Consequently, many wiki proprietors take a soft approach to security; rather than preventing harm from occurring they ensure that any damage can be easily cleaned up.

“Mashups enable you to offer advanced, content rich web applications with minimal data management and development cost.”

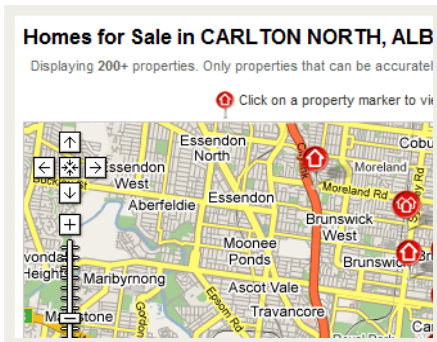


Figure 16: Realestate.com.au uses a mashup from Google Maps

## What is it?

Also known as web application hybrids, a mashup is the combination of data, features and services from two or more external sources to create a new webpage or application. The integration between the sources is often seamless, providing a single user experience.

Some applications readily lend themselves to a mashup context, and combine easily with other content to provide a new service or user experience. These applications have quickly become ubiquitous across the internet. For example, many websites, such as real estate sites and weather websites, are using Google Maps overlaid with their own data.

YouTube is another application which is frequently used as a component of a mashup. With 84 million videos and counting, YouTube videos frequently appear embedded with other content on a range of sites, from personal blogs to news websites.

## How can I benefit?

Business mashups are becoming more common. Businesses are providing services which originate from internal services mashed up with external or personalised information, and delivered through user friendly web pages and online applications. They still incorporate security access control and governance to keep the information safe and secure.

Mashups enable you to offer advanced, content rich web applications with minimal data management; accessing data from various sites ensures the information and user experience remains up-to-date and fresh.

They are also relatively straightforward to develop, as mashups are built using existing application programming interfaces (APIs). This makes customisation much easier, which reduces costs and saves valuable development time.

The best part is that once a mashup is set up, you have potentially unlimited access to data. For example, a mashup with photo sharing website Flickr could provide access to more than 3 billion images.

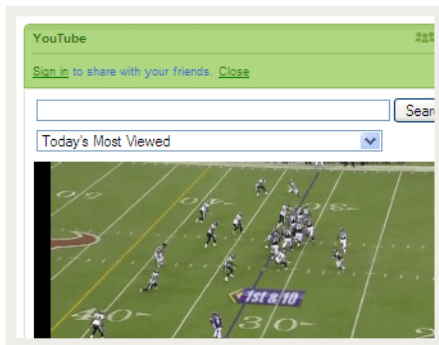


Figure 17: YouTube videos can be included on your iGoogle homepage

In addition, businesses with limited budgets can use mashups to create a powerful service offering. It is possible to mash existing applications together relatively cheaply, as major components are already built – you don't need to build anything from scratch. This way, if you're on a tight budget you can come up with a whole new service offering for only minimal expense. The low expenses incurred also mean you can readily experiment with mashups, offering great scope for new and creative products.

## Who's using it?

Facebook is a well known example of a web application that, at its core, is comprised of data from many different sources: messages from users, applications from developers, feeds from Twitter and other blogs, YouTube videos.

An emergency and disaster website from Hungary, [hisz.rsoe.hu](http://hisz.rsoe.hu), combines over 200 sources of information relating to severe weather conditions, biohazard threats, and seismic information, and seamlessly displays it on a Google map.

## Any pitfalls?

While mashups give businesses access to a new world of relatively inexpensive applications, there are some risks associated with using them.

As more developers start to create their own mashups and then make them available, the risk of inheriting poor or even corrupt code increases. Additionally, the mashup codes created to access data from various websites can potentially create an open gateway to your internal data, making you vulnerable to spam and attacks.

Also, as mashups are an amalgamation of various websites and data which may not have been written with specific browsers in mind, the code generated may cause browser incompatibility when introduced into a new site.

To ensure security, some developers may sacrifice user experience and functionality by limiting what the mashups can do. This can limit the quality of the user experience offered by mashups.

“Cloud computing can be a money saver... deploy to a pre-existing infrastructure and scale up or down as required.”

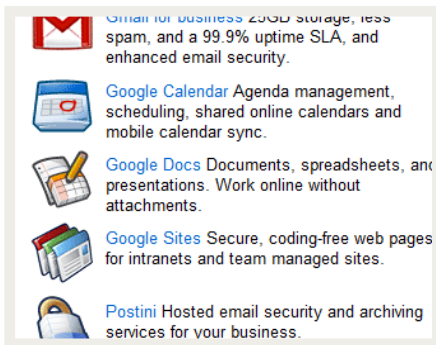


Figure 18: Google Apps include a number of online tools

## What is it?

Cloud, or internet computing enables people to access documents and applications from any computer, anywhere in the world. Users don't need any expertise in regard to the technology infrastructure because they can access a range of complex applications with any internet-connected computer.

Google Apps<sup>26</sup> is perhaps the most well-known pioneer of cloud computing. Google offers a set of online office tools including email, calendar, word processing and a simple website creation tool. They also offer the Google App Engine, a platform-as-a-service offering that lets developers build applications and host them on Google's infrastructure.

## How can I benefit?

Cloud computing can be a money saver, depending on your existing data centre efficiency, operating costs and the type of functionality being hosted in the cloud. Enabling deployment to a pre-existing infrastructure without renting or buying physical hardware means you can scale up or down as required. Resources are consumed as a service which means you pay for only those resources being used.

As users can access the data and applications within the cloud from any computer, cloud computing results in a completely mobile user base, independent of device or location. The infrastructure is offsite and accessed via the internet so users can connect from anywhere. As the data is offsite, it may be more secure from theft, fire or any other damages that might happen to your local computer or business.

Creating, storing and accessing data via the internet allows you to share documents with others and invite them to collaborate. Collaborators can edit in real-time, publish and make it available to the rest of their organisation or the wider world.

## Who's using it?

The NSW Department of Education and Training (DET) recognised these benefits in 2008 when they deployed Gmail as their preferred email solution to more than 1.2 million students<sup>27</sup>.

DET NSW wanted to reduce costs for IT Infrastructure and also have a reliable and readily available email system. They chose Gmail as their new email solution and retained students' email credentials for a seamless transition. This resulted in a reduction in ownership costs by 66%, unified an entire student body to one email system and improved communication across campuses while enabling storage of email and documents<sup>28</sup>.

The Department also plans to provide students with additional Web 2.0 tools in the form of wikis and blogs. This will give students access to a collaborative space, as well as giving them extra online storage space to store files and receive homework.

## Any pitfalls?

While this Web 2.0 approach certainly offers numerous benefits, it also brings with it a new set of risks. For example, data is stored by a third party so you do not physically possess the storage, leaving responsibility and control of the data with the provider.

Cloud computing also makes you dependent upon the provider. If the online company where your data is stored goes out of business without warning, there is the possibility of all your data disappearing with them. You may be limited to accessing only those applications or services offered by your provider, potentially limiting freedom and creativity.

Storing data online, while being accessible to users with the correct level of access permissions, results in a potential security issue. Choosing the right encryption or security codes is paramount to data integrity. It would be a challenge to host or deploy an intranet or access restricted sites within the cloud. Additionally, web analytics may not be able to capture the right data for business planning activities.

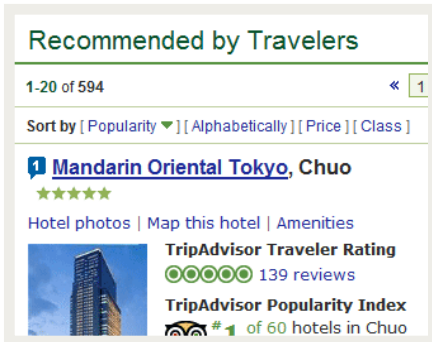


Figure 19: TripAdvisor provides user reviews and recommendations on accommodation

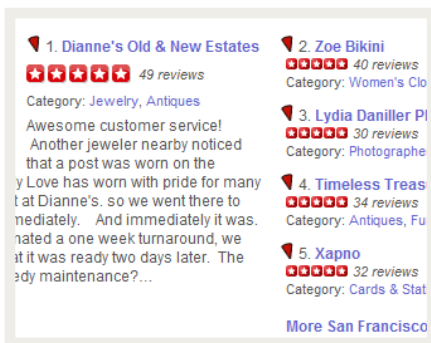


Figure 20: Yelp provides user reviews on merchants throughout the US

## What is it?

User reviews are a collection of opinions provided by users while user ratings are typically a star rating given to products, items or services. Ratings provide a quick appraisal for users to determine how much other customers have liked or disliked a product or service they have experienced.

User reviews and ratings assist users to make informed decisions.

eBay, Amazon, Urbanspoon and TripAdvisor are all well known examples of sites using this feature.

## How can I benefit?

Employing user reviews and ratings can assist you to better understand how your product or service is perceived by your customers. Ultimately it can assist you to provide an improved product and service.

## Product or service insight

Implementing user reviews is an effective way to gain insight into the value of a service or product through the direct experience of your customers.

Some organisations are hesitant to implement user reviews on their website, for fear of negative comments. However, the value of an excellent review can't be underestimated. So is it worth the risk? If a negative review is posted it allows you the opportunity to proactively supervise and respond to users who leave this feedback. Apart from being able to solve an issue your customer may be having and hopefully retain their business, you may also discover a deeper or wider reaching problem with your product or service of which you may not have become aware until sales declined.

## Customer satisfaction

Important to any business is gauging customer satisfaction, and some businesses invest heavily in determining what their customers think. Through the use of user reviews or ratings, users are providing real-time information on their experience of a service or product.

Having this customer satisfaction information is important, although you need to disseminate this internally. Typically, staff that would benefit from this information are customer service representatives, department heads, sales, marketing and advertising teams.

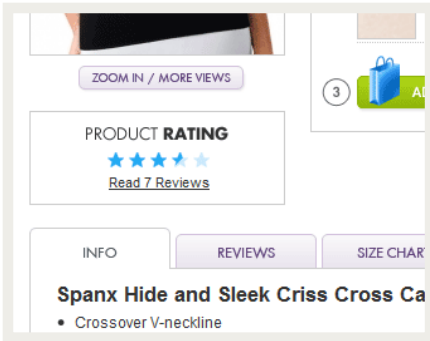


Figure 21: Freshpair provides reviews on products they sell

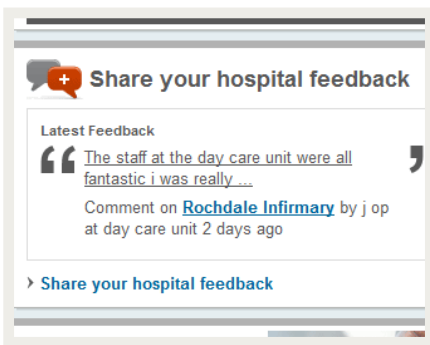


Figure 22: NHS publishes user ratings of hospitals

## Who's using it?

Yelp uses customer reviews to assist users in selecting merchants and services based on the experiences of others. Currently Yelp has more than 4 million local business reviews. Yelp also encourages business owners to monitor and respond to customers who leave feedback.

Travel advice giant, TripAdvisor, gathers travel information and reviews from users. People post travel related issues and their experience of various destinations and services, e.g. tour operators and hotels. It has over 10 million members and 20 million reviews.

Urbanspoon provides a website and iPhone application that provides restaurant details and ratings. Diners can rate the restaurant while still at the table.

Smaller companies can also benefit. American based lingerie site, Freshpair<sup>29</sup> allows customers to provide reviews of the products it sells. This makes a potentially difficult remote purchase a little easier as customers can read the official product description from the manufacturer and/or supplier and then gain insight into fit and comfort from customers just like them.

And if you think this one is only for business, think again. In the UK, the public National Health Service (NHS) publishes user ratings and reviews of hospitals on their NHS Choices website<sup>30</sup>, actively encouraging comments from patients and promoting healthcare choice.

## Any pitfalls?

The risks of implementing this technology are the exploitation of this interaction with users. If used improperly, it can damage the business's brand and relationship with existing and potential customers.

Businesses should never:

- review their own business or product or seek reviews from employees or associates
- spam unwanted promotional messages to existing users
- ignore and not act on negative reviews
- publicly attack users that have written negative reviews.

We hope the information provided will allow you to explore the space further and become more comfortable with the concepts behind each technology and how they are currently being used.

Implementing any of these tools should be done with the right amount of research and considered design. Stamford Interactive is a user experience consultancy specialising in usable and accessible design, if you would like to know more about the full range of user experience design and strategy services we offer please contact us on :

Melbourne 03 9270 7900

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For more information visit [www.stamfordinteractive.com.au](http://www.stamfordinteractive.com.au)

### Further Reading

An extensive list of social bookmarking sites can be found at [mashable.com](http://mashable.com).

For further information about blog trends, see [smashingmagazine.com](http://smashingmagazine.com).

For a more extensive list of aggregators see [NewsonFeeds.com](http://NewsonFeeds.com).

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