

BLOGS, WIKIS AND OFFICIAL STATISTICS:

New perspectives on the use of Web 2.0 by statistical offices

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Blogs and wikis have been around for a while now, but not much has been written on how statistical agencies could, should and are using them to communicate statistical information or monitor usage of statistics. What is happening in the world of blogs, wikis, social networking and other Web 2.0 applications today, how is it impacting official statistics and what might be expected in the future?

WEB 2.0 TODAY

Put simply, “Web 2.0” is the term used to describe a new wave of Internet technologies that allows users to do more than just access information online – they can add, change or influence Web content. Also known as social computing, user-created content or the participative Web, “Web 2.0” was originally coined by O’Reilly Media Chief Executive Officer, Tim O’Reilly, in 2004. It was intended to describe the thriving new Web that emerged after the 2001 dot-com crash, acknowledging the “exciting new applications and sites popping up with surprising regularity”. Debate continues over the meaning and appropriate use of the term and the numerous definitions do little to clarify what is and what is not Web 2.0. Nevertheless, the Web has clearly become a place where people meet and interact – and where anyone can create content online.

Examples of what can be considered Web 2.0 applications and tools are all around us: blogs, wikis, photo- and video-sharing, social networking sites, folksonomies (user-generated taxonomies), mashups and virtual worlds. RSS (Really Simple Syndication¹¹²), podcasts and Web services can also be considered part of the Web 2.0 family, but as one-way tools, since consumers can re-use but not alter their content. As Web 2.0 applications grow in popularity, the potential for marketing and communicating through these platforms is being recognized by business and Governments around the world. Statistical organizations are paying close attention to the Web 2.0 hype, but an informal survey suggests that current examples of its use are limited. The most common applications are usually within organizations, but opportunities clearly exist for interacting with external customers and users of statistical information.

HOW GOVERNMENTS AND BUSINESS ARE USING WEB 2.0 TECHNOLOGIES

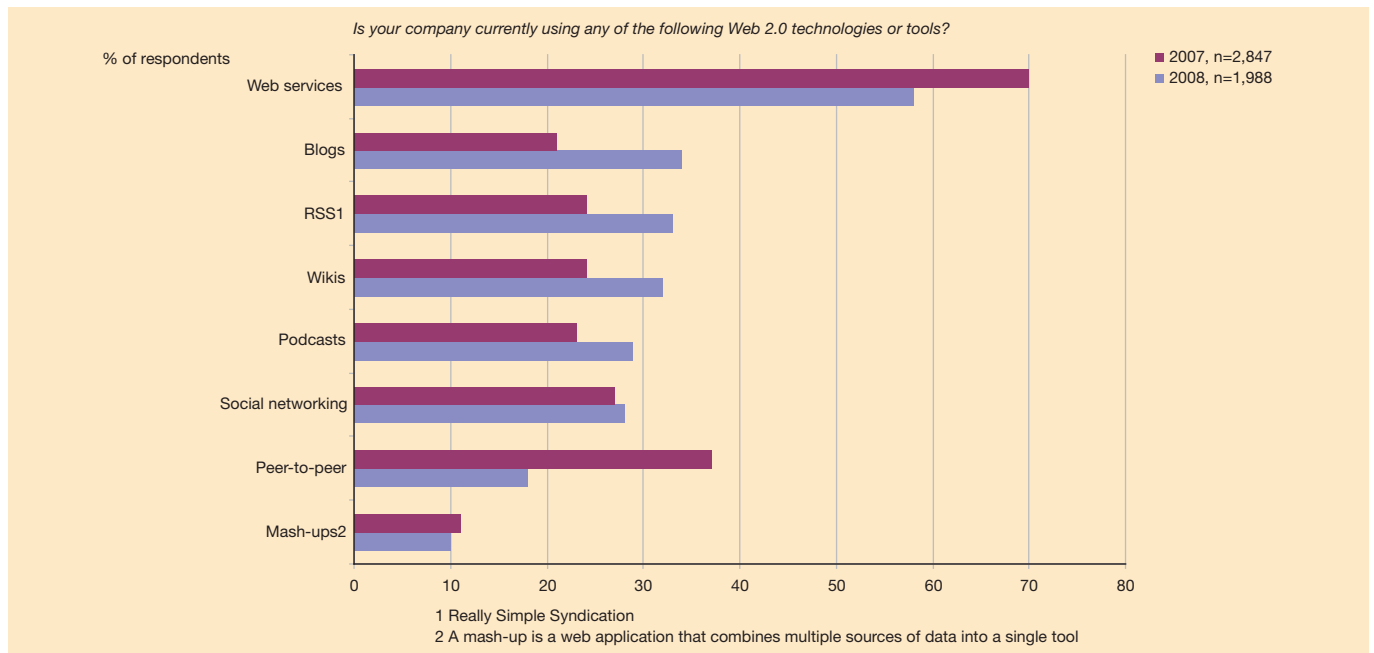
In their latest e-Government survey, the United Nations noted that Web 2.0 is providing cost-effective mechanisms for Governments to “develop two-way communication with their citizens”, although the adoption of these technologies has so far been tentative¹¹³. Take-up in the private sector seems faster, with the term “Enterprise 2.0” emerging to sum up how organizations are applying Web 2.0 within their walls to communicate, manage knowledge, increase efficiency and encourage innovation. Web 2.0 is also being used externally to build customer relationships and gather feedback. A survey of 1,988 executives revealed a significant increase in enterprises’ use of blogs, RSS and wikis over the last 12 months (see figure 1).

¹¹¹ The author would like to acknowledge and thank Lars Thygesen (OECD) for his valuable input to this essay. The contribution of the survey respondents, Lauren Rauk (UNECE) and Steven Vale (UNECE) are also greatly appreciated.

¹¹² “RSS is a Web content syndication format” (<http://www.rssboard.org/rss-specification>). It is a standard used for sending updates of website content, such as blog posts, news headlines and podcasts.

¹¹³ United Nations (2008) *United Nations e-Government Survey 2008: From e-Government to Connected Governance*. New York, United Nations, ST/ESA/PAD/SER.E/112.

Figure 1 A changing mix of Web 2.0 tools



Source: McKinsey Global Survey Results, The McKinsey Quarterly, July 2008.

Advances in ICT provide the opportunity for governments throughout the world to improve the delivery of information and services ... and to increase citizen participation in government.

Mutula, S.M. and Wamukoya, J.M. (2007) *Web Information Management: A cross-disciplinary textbook*, Oxford, United Kingdom, Chandos Publishing.

Blogs

Since 2006, the number of blogs has continued to grow markedly, with the most recent reports indicating a further 20 million created in the past two years, bringing the total to more than 70 million. Although the quality of blog content and existence of splogs (spam blogs) remains a problem, reports indicate the blogosphere is maturing, with the number of blogs in the top 100 most popular websites rising from 12 to 22 in the last quarter of 2006.

Blogs can be used within and outside organizations to communicate information and manage knowledge. Blogging software is relatively inexpensive to set up and the benefits of public blogging can include generating interest and boosting page rankings in search engines. A comprehensive study on the rise of blogging in the public sector of the United States¹¹⁴ suggests this medium is most popular with politicians and elected representatives, who appreciate the personal tone of blogging as a way to engage with their constituencies.

Businesses and government are using blogs in a variety of ways:

- education.au is a not-for-profit funded by the Australian Government to develop technology solutions that support education, training and career initiatives. An organization comprising some 100 staff, education.au is in the forefront of developing Web services for the Australian community. As keen users and advocates of Web 2.0 technology, education.au staff find blogs provide a practical way to record and share information, as well as a mechanism for creating discussion between colleagues and external readers. It is also a way for education.au to build a database of its work and research that is categorized with tags, making it easy for users to search or browse (<http://blogs.educationau.edu.au/>).
- Employees of the Office of Citizen Services and Communications (US General Services Administration) have created a blog called GovGab (<http://blog.usa.gov/roller/>) to share information about federal government services with citizens. To manage the regular posting that is necessary for a good blog, they have a team of five bloggers, each allocated to one day of the week. Their posts are informative and written in a humorous and personal tone.

¹¹⁴ *Wyld, D.C. (2007) The Blogging Revolution: Government in the Age of Web 2.0* IBM Center for the Business of Government <http://www.businessofgovernment.org/pdfs/WyldReportBlog.pdf>.

- Twitter (<http://www.twitter.com>) is a Web service that allows for micro-blogging (messages of up to 140 characters). These brief messages can be sent and received both online and via mobile phone, and are thus a method for quickly and cheaply sending updates or messages to a target group. For example, the American Red Cross used Twitter to provide frequent updates to subscribers during natural disasters (<http://twitter.com/RedCross>). United Nations Secretary-General Ban Ki-moon maintains an unofficial Twitter feed, keeping followers up to date on who he is meeting with on a given day (<http://twitter.com/secgen>).

Wikis

A wiki is a website built on a software platform that allows users to add, edit or delete content. The best known example is Wikipedia, a multilingual, free, online encyclopedia that has grown through user contributions to include thousands of articles (<http://www.wikipedia.org>).

For businesses and government, wikis are particularly valuable as internal knowledge management tools. According to McKinsey, many organizations are using them to encourage their employees to document and share information. Examples include:

- The United States Intelligence Community created Intellipedia (<http://en.wikipedia.org/wiki/Intellipedia>), a wiki for sharing information between workers in the intelligence community. Founded in 2006, it now boasts 35,000 articles and 37,000 users.
- The United States Department of State uses Diplopedia (<http://en.wikipedia.org/wiki/Diplopedia>) to efficiently share information about diplomacy and international relations among its worldwide community of foreign affairs offices.

Organizations are also using public wikis to encourage interchange on particular topics. One such example is Wikigender, launched by the OECD Development Centre (<http://www.wikigender.org>) on International Women’s Day in March 2008. The site has since grown to include 291 articles from 302 contributors. Adding or editing content is as simple as creating an account. There is a quality control system in place to protect against spam, monitor changes and enforce policies that ensure users create appropriate content.

Social networking and “crowdsourcing”

As social networking sites such as Facebook, MySpace and LinkedIn grow in popularity, they are providing a large, captive audience for businesses and government. Universities, politicians and non-profit organizations are tapping into this potential by using sites like Facebook to create free “business pages” to promote their initiatives. Facebook also offers organizations the possibility to advertise, conduct polls and create social applications to engage with target groups (<http://www.facebook.com/business>).

Social networking websites		
		Number of registered users
MySpace	www.myspace.com	110 million
Facebook	www.facebook.com	90+ million
LinkedIn	www.linkedin.com	25+ million

Note. Number of MySpace account holders according to a USA Today article of 10 February 2008 (http://www.usatoday.com/money/industries/technology/2008-02-10-social-networking-global_N.htm). The number of Facebook and LinkedIn users were taken from the statistics published on those respective websites, as of 5 August 2008.

Figure 2 Facebook page of the United Nations High Commissioner for Refugees <http://www.facebook.com/pages/UNHCR/13204463437>



Crowdsourcing applications such as Wikipedia encourage broad public input, purportedly drawing on “the wisdom of crowds”. Another example of crowdsourcing is InnoCentive (www.innocentive.com), a site where “seekers” address complex problems to an online community of “solvers”, with a monetary prize awarded to those who deliver actual solutions. Current problems available for solving include how to improve the United States health care system (\$10,000 reward) or how to develop statistical methods for predicting response to clinical trials (\$10,000 reward).

Fix My Street (<http://www.fixmystreet.com>) is an initiative developed by mysociety.org, a United Kingdom charity project specializing in creating websites that connect citizens with government. The simple-to-use interface encourages people to report problems in their localities, e.g. graffiti, potholes in the road, broken street lights, by marking the location of the problem on a map, entering a short description and optionally uploading a photograph. The site automatically e-mails a report to the relevant local council, which then deals with the problem and updates the system once it is fixed.

Web 2.0 tools are helping businesses to gather customer input on future strategies and products. One example is My Starbucks Idea (<http://mystarbucksidea.force.com>), which encourages Starbucks customers to suggest their ideas for a new product or store feature. Registered site users can then vote and comment on the ideas. A team of “Ideas Partners” (Starbucks employees) review what is posted and present the most popular, innovative and viable ideas to company managers for action. Organizations wishing to try this out for themselves may consider creating a uservice page (<http://www.uservice.com>): uservice software allows users to submit ideas, discuss them and vote on them. An organizational representative can then give an official response on the status of the suggestion.

Virtual worlds

Virtual worlds are a phenomenon that has grown out of online gaming. Several examples exist, the most popular being Second Life (SL). Formed in 2003, today there are more than 14.5 million SL “residents”, of which around 455,000 are currently active (i.e. have logged on in the last seven days). Residents travel around SL in the form of computer graphics avatars, interacting with one another and creating a shared world through the establishment of businesses and the purchase of land, houses, gardens, clothes and other virtual objects. SL has its own economy based on Linden™ dollars (L\$) with official exchange rates hovering around 266 Lindens to one US dollar. This online economy has raised a number of business and policy issues, which can be followed on sites such as <http://metanomics.net/>.

Several real-world businesses, including H&R Block, IBM, Cisco and Reuters, are establishing a presence in SL, and some are finding success. According to SL economic statistics¹¹⁵, there were 61,136 residents who ended July 2008 on a positive financial note, with 202 making more than the equivalent of \$5,000 that month. The types of businesses established in SL include: party and wedding planner, tour guide, bodyguard, landscaper, fashion designer, real estate speculator and pet manufacturer.

Public sector, education and non-profit organizations are also using SL to engage with target groups. In October 2007, the World Bank launched its “Doing Business 2008” report with a presentation, question-and-answer session and after-launch party with the 700 SL residents that attended and the further 1,000 that tuned in to the audio stream. According to Doing Business team member Daria Khalifa, the SL launch was a success, reaching the largest audience ever for a single event.

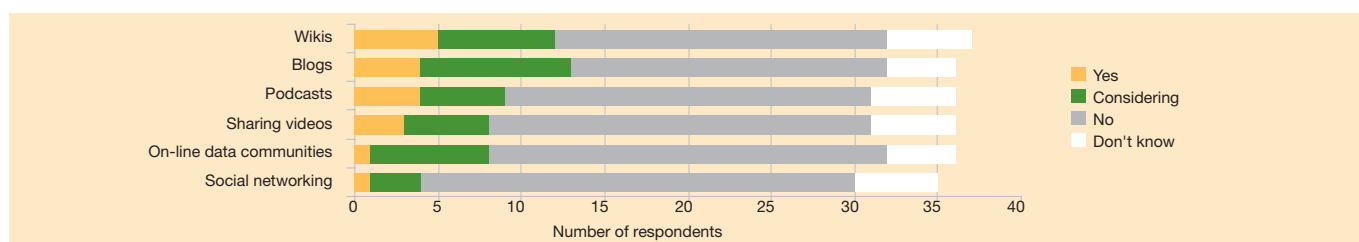
Sweden was one of the first countries to create a virtual embassy in SL. (Maldives and Estonia have also done so.) Built and managed by the Swedish Institute, the virtual embassy has a service counter staffed for 20 hours per week and Radio Sweden playing in the background (<http://secondhouseofsweden.com/>). The virtual embassy offers fact sheets about Sweden, royalty-free images of the country, art exhibits, virtual Swedish food (including recipes) and an auditorium for holding events. The project had an initial budget of SEK 400,000 (approximately \$65,000) and is considered to be well worth the expense.

Organizations can also create their own virtual worlds using Second Life Grid™ software to hold virtual meetings, conduct employee training, or meet with customers in a virtual environment. The Second Life Grid website (<http://secondlifegrid.net/>) provides information and case studies of organizations such as Intel Corporation, Global Kids Inc. and Ohio University that have successfully used the platform to engage with target groups.

STATISTICS 2.0: EXISTING EXAMPLES OF WEB 2.0 APPLICATIONS FOR STATISTICS

A review of websites suggests that except for RSS, there is limited public use of Web 2.0 by statistical offices. This was confirmed by an informal survey of statistical dissemination and communication professionals conducted by UNECE in July 2008. As figure 3 illustrates, current or considered use of various Web 2.0 tools is low. The reasons for limited activity in this area include the need to be cautious in order to maintain public credibility, limited resources and focusing on the upcoming census.

Figure 3 Current use of Web 2.0 tools by statistical offices



¹¹⁵ Second Life economic statistics are available at: http://secondlife.com/whatis/economy_stats.php; quoted as at 5 August 2008.

Despite these challenges, it is clear from survey responses that many statistical offices are following the Web 2.0 trend closely and have not ruled out its potential for interacting with customers and stakeholders. Examples of current applications of Web 2.0 by statistical organizations are provided below.

Blogs

Statistically Speaking is a “blog for librarians and other like-minded information professionals featuring the latest information, news, tips and stories relating to the Australian Bureau of Statistics” (ABS) (<http://abs4libraries.blogspot.com>).

Online since May 2007, this blog provides informative updates on the availability and use of statistical products released by ABS.

Blogstats (<http://blogstats.wordpress.com/about/>) is an unofficial blog created in 2006 by Armin Grossenbacher (Swiss Federal Statistical Office (FSO)) as an online information-sharing platform for statistical dissemination and communication professionals. Intended as a multi-author blog, Blogstats provides the latest news and information about developments in communicating statistics on the Web.

Other examples of blogs related to statistics include:

- The United States National Center for Health Statistics publishes the NCHS Press Room Blog (<http://nchspressroom.wordpress.com>), an “unofficial project” created by the centre’s press office. Online since April 2007, it offers short articles on health statistics, often related to subjects currently being covered in the media.
- Simon Johnson’s IMF Research Blog (<http://blog-research.imf.org>) was set up as an information and discussion platform around the IMF annual meetings. It ran between October 2007 and May 2008, providing commentary and encouraging discussion between readers of the IMF’s World Economic Outlook.

When it comes to the presence of statistical offices in the blogosphere, there is another angle to consider: blog posts or comments written by others about statistical offices or products. Monitoring the blogosphere and other online media should be considered part of a complete media monitoring strategy. Statistics Denmark reported at a recent UNECE meeting that they systematically check the blogosphere for relevant posts, record them in a database and respond where and when necessary.

Wikis

Most statistical offices using wikis limit their use to those within the organization or closed specialist groups. Deployment within a trusted environment seems to be the strength of wiki systems, as public wikis require rigorous monitoring to ensure changes to content are acceptable for publishing.

The UNECE Statistical Division has been experimenting with the use of wikis to connect groups of experts for work-related efforts. One example, METIS-wiki (www.unece.org/stats/metis/wiki), is a collection of case studies on metadata management in statistical offices. Pages can be read by anyone, but only permitted users are able to comment, edit or add content. Other wiki applications used by UNECE, with restricted access to designated working groups, are proving to be valuable and time-saving, allowing efforts to shift from collating contributions and feedback sent via e-mail to generating more direct activity between members.

Online communities and data-sharing

Swivel (<http://www.swivel.com>), Many Eyes (<http://www.many-eyes.com>), DataPlace (<http://www.dataplace.org>) and MapTube (<http://www.maptube.org>) are examples of websites that aim to create a community around the sharing and discussion of statistical information. These sites represent potential partners for statistical offices, as they provide an alternative channel for disseminating and communicating statistics. A UNECE survey on current Web 2.0 usage revealed there is very little active participation by statistical offices on these websites.

- Many Eyes includes data from statistical offices and questions relating to the availability and use of official statistical information. The extent to which organizations are interacting with customers through this site appears to be minimal.
- Organizations such as OECD, the UNESCO Institute for Statistics, UNECE and the United States Census Bureau, and Department of Agriculture have joined Swivel as an official source.

- DataPlace, currently relevant to the United States only, “aims to be your one-stop source for housing and demographic data about your community, your region, and the nation” (http://www.dataplace.org/about_us.html). It merges a range of official and non-official statistics to provide a comprehensive overview of the socio-economic status of any location selected by the user.
- MapTube, developed by the Centre for Advanced Spatial Analysis, University College London, allows users to share and overlay maps to visually compare different data sets.

Sharing videos through sites such as YouTube (<http://www.youtube.com>) and Google Video (<http://video.google.com>) has also been limited, with only three statistical offices reporting the use of these tools. The types of content being uploaded by statistical offices include training videos, press conferences and footage from seminars and meetings.

Social bookmarking

The sense of community created by Web 2.0 can be used to increase the ranking and popularity of standard corporate websites through social bookmarking tools such as Digg (<http://www.dig.com>) and Del.icio.us (<http://www.delicious.com>). Toolbars like the one provided by Add This are available for free and can be added to website templates, as was done recently by the Australian Bureau of Statistics. Encouraging users to bookmark, link to and share Web pages in this way can attract new and returning visitors to sites.

Podcasts

The use of podcasts by statistical organizations appears minimal, although some are taking advantage of this channel to expand delivery of their audio broadcast material. The United States Census Bureau offers two audio feeds, a daily news feature in both English and Spanish, and one on the Statistical Abstract of the United States 2006 (<http://www.census.gov/main/www/feeds.html>). The United States National Agricultural Statistics Service offers a podcast of its national and local news broadcasts (<http://www.nass.usda.gov/Newsroom/Syndication/index.asp>).

Mashups

A mashup is a “Web application that combines data from more than one source into a single integrated tool” (Wikipedia 2008): for instance, Statistics Netherlands has overlaid its neighbourhood data on a Google Earth map (<http://www.cbs.nl/en-GB/menu/themas/dossiers/nederland-regionaal/cijfers/cartografische-toegang/gearth.htm>).

Really Simple Syndication

Many, if not most, statistical offices are using RSS feeds to provide notifications of their latest information. Offerings range from a single feed of news headlines to providing updates by subject or by region. The types of information being transmitted by RSS include:

- News headlines and press releases
- Notices of product and publication releases
- Release calendars
- Upcoming conferences and seminars
- Job opportunities
- Website feature updates



RSS logo

Useful sources of more information on uses of RSS by statistical offices and government include:

- Eurostat’s summary of current RSS feeds from the European Statistical System
http://epp.eurostat.ec.europa.eu/portal/page?_pageid=2453,1&_dad=portal&_schema=PORTAL
- Library of the United States Government RSS feeds
http://www.usa.gov/Topics/Reference_Shelf/Libraries/RSS_Library.shtml.
- the Canadian Government News Centre
<http://news.gc.ca/web/view/en/index.jsp?categoryid=12>

ISSUES TO CONSIDER

Before taking the leap into the world of Web 2.0, organizations need a clear idea of costs and benefits. There will be vast differences depending on whether the technology is being considered for use within or outside the organization. The following issues should be taken into account when considering external Web 2.0 applications.

For official statistics and public sector organizations, maintaining reputation and credibility is vital. If published information is open to alteration or comment, this requires people to monitor and react accordingly. Organizations that decide to send representatives into social networks, online communities or virtual worlds will usually do so only with senior management support. Most Web 2.0 sites cater to individuals rather than organizations; this presents certain challenges (e.g. who will be the spokesperson and how will this corporate representation function?) Resolving these issues requires policy development, time and effort. As realized benefits have proven limited to date, this is likely to be a barrier to entry.

Web usability guru Jakob Nielsen warns organizations of the dangers of investing in the inclusion of Web 2.0 features in their own websites. He suggests that “most business tasks are too boring for community features” and these technologies are best placed on internal platforms where the user community is engaged and trusted. Nielsen asserts that while some minor “infusion” of Web 2.0 features may bring benefits, the resources are likely to be better spent improving the basic features and usability of existing websites¹¹⁶.

The negative impact on productivity of employees using social networking sites during working hours has been a problem, with prohibited access to these sites being a reality for many public and private sector organizations. However, recent studies by Gartner Inc¹¹⁷ and Huddle¹¹⁸ warn organizations against being quick to ban these sites. They suggest that organizations should instead consider if these applications could be useful to the organization and develop a clear policy, based on trust, for their use in the workplace.

Organizations that decide to offer Web 2.0 services should have a clear picture of the target group and ensure that these services are likely to cater to users’ needs. If Web 2.0 features start to dominate the product suite, there is a danger of widening the gap between Internet-savvy users and those with limited access or capabilities to operate in this environment.

FUTURE POTENTIAL

To date, statistical offices have been followers rather than leaders in adopting Web 2.0 technology. This is probably wise given the relative newness of Web 2.0. According to Gartner’s hype cycle, which represents the movement of new technologies from initial appearance on the market, through the often ensuing hype, to maturity (for those that achieve it), Web 2.0 overcame the “peak of inflated expectations” in 2006 and is now nearing the “trough of disillusionment”. This indicates that the technology has yet to show widespread return on investment and is in danger of being abandoned by the popular press. Wikis and corporate blogging are featured separately on Gartner’s hype cycle, and in a more favourable position. It seems that they are closer to becoming widely valued tools for increasing productivity in the workplace.

What about Web 3.0?

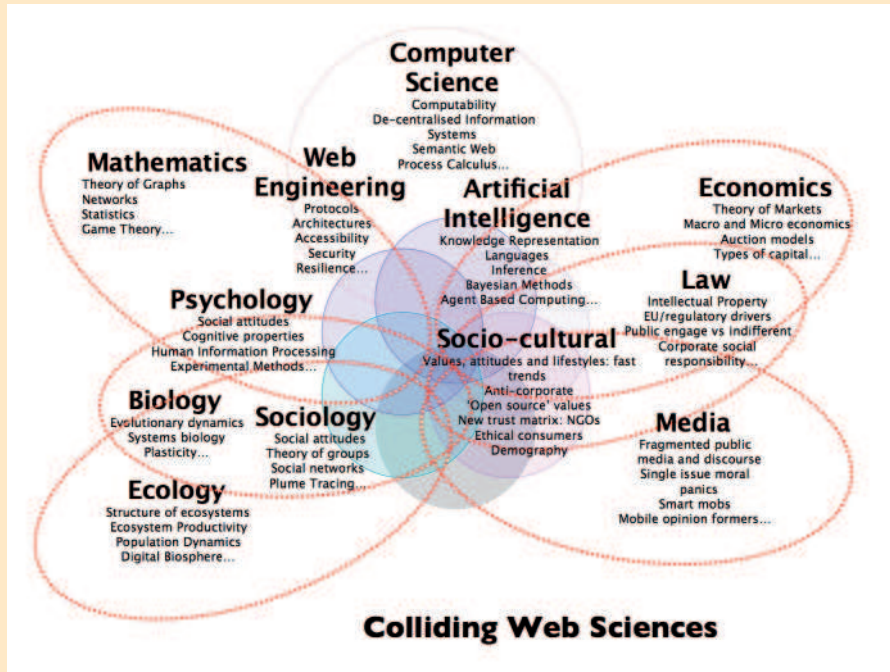
The Web is continually evolving and there is much speculation about what it will look like in the future. In 2006, John Markhoff of The New York Times, first introduced the term “Web 3.0” to describe what is also known as the “Semantic Web”. Still a thing of the future, the Semantic Web is expected to take advantage of structured information exchange to provide a more meaningful and personalized experience. Technologies and standards such as data-mining, Web Ontology Language (OWL) and the Resource Description Framework (RDF) are expected to provide an intelligent layer to the Web, making it possible to anticipate the information needs of users.

¹¹⁶ Nielsen, J. (2007) “Web 2.0 Can Be Dangerous...”, *useit.com Alertbox*, 17 December 2007. <http://www.useit.com/alertbox/web-2.html>.

¹¹⁷ Gartner Inc is a US-based information technology research and advisory company. It issued a press release on 6 August 2008 about the use of social networking and other Web 2.0 sites by organizations (see <http://gartner.com/it/page.jsp?id=737512>).

¹¹⁸ Huddle.net is a commercial company based in the United Kingdom that provides online collaboration tools. It recently conducted a Social Collaboration in the Public Sector study involving 202 local authority officials (see <http://www.huddle.net/press/government-should-buy-local-go-social-public-sector-workers-say>).

Figure 4 Diagram illustrating the interdisciplinary nature of the proposed new field of Web Science.



Source: <http://webscience.org/>

To guide studies in this area and the future of the Web in general, academics such as Tim Berners-Lee, a co-inventor of the Web, are working on the establishment of a new interdisciplinary field called Web Science. As illustrated in figure 4, Web Science combines many different disciplines. Apparently, statistics is not one of them.

Future applications of Web 2.0 by statistical offices

Ideas that statistical offices may wish to consider include:

- Using Web 2.0 social networking sites and virtual worlds to develop education programmes with schools and universities. This is an obvious group to target through Web 2.0, as these technologies are generally more popular with young people.
- Creating a Second Life statistics office or conducting an SL census, possibly as an education game or classroom exercise.
- Promoting the census or statistical education initiatives through Facebook business pages, online communities and virtual worlds.
- Gauging demand for statistics through sites such as uservice and inviting proposals for new statistical collections.

Until now, statistical offices have been cautious with venturing into the use of Web 2.0 technologies. The benefits of being able to readily communicate and collaborate with customers through the Web have yet to be realized. It is important that statistical offices continue to follow Web 2.0 as possibilities for marketing and interacting online continue to expand. Sharing research, experience and information through international meetings and collaborative tools such as Blogstats is an essential part of this process.