InterPARES 3 Project

International Research on Permanent Authentic Records in Electronic Systems

TEAM Canada

Title: General Study 09 – New Technologies, New Challenges for Archival Science: An Annotated Bibliography on Social Media and Records

General Study Report

Status: Final (public)

Version: 2.1

Date Submitted: May 2010

Last Revised: February 2016

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URL: http://www.interpares.org/ip3/display_file.cfm?doc=ip3_canada_gs09_final_report.pdf

Document Control

Version history			
Version	Date	By	Version notes
1.0	2010-05-21	E. Shaffer, L. Snider, A. van Dijk	Discussion draft prepared for TEAM Canada Plenary Workshop 06.
1.1	2010-05-23	R. Preston	Minor content and copy edits.
1.2	2010-09-24	A. van Dijk	Rearranged citations and created headings. Minor grammatical edits.
1.3	2010-11-14	E. Shaffer	Added content and edited layout and copy.
2.0	2012-03-01	E. Shaffer	First draft final.
2.1	2016-02-17	R. Preston	Final content and copy edits for public version.

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General Study Report

A. About this Bibliography

The purpose of this bibliography is to illustrate the resources read in an examination of the issues around social media and records. The intent is to provide a context to understand the technologies, examine the current state of these technologies as they relate to social media and the issues that arise when records are created and stored using these technologies.

This bibliography explores the current literature about the Internet, Web 2.0 and social media/networking. It examines definitions, the shift in culture that Web 2.0 has brought about and the way individuals and organizations have begun to utilize social media as a means of creation, communication and dissemination.

The academic literature on social media use and issues examined from an archival and records management perspective was identified through a search of the Library, Information Science and Technology, Library and Information Science, and Google Scholar databases. Additional literature in this area, which includes professional literature and government reports, was gathered from references on a number of listservs (including the Records Management and ERECS listservs), publications that address Web 2.0, and the popular press. The articles and books found were reviewed for their relevancy to the topic, the scope and context of the research undertaken and the expertise and authority of their authors.

B. Definitions

The lexicon of social media is still in its infancy and continuously growing and evolving. It is necessary to note that there is still no full consensus amongst users and developers of these technologies on which terms to use and what each of these terms means. Additionally, terms such as Web 2.0 and social media are used interchangeably within the literature without clear acceptance across disciplines. The following definitions will be used for the purposes of this bibliography.

Social networking systems are defined as web based services that utilize social software, allowing users to create profiles, interact, and share and communicate information. Social media is defined as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-

generated content."[1] Web 2.0 is commonly associated with the Internet as an integrated and dynamic service platform that is highly interactive and facilitates content generated by interconnected user communities utilizing Web applications that allow interoperability, collaboration and information sharing.

C. Records and Social Media

This section is divided into four sub-sections: The Internet and Web 2.0; Social Media, Archives and Records Management; Evidence, e-Discovery and Legal Issues; and Web 2.0: Government and Organizational Use. The sub-section Internet and Web 2.0 includes readings that examine the shift in the Web from a passive entity to an interactive platform and the functions this new platform affords for individuals and organizations. These readings explore the nature of Web 2.0 and define the social media technologies that are frequently utilized within a variety of environments, including academia, business and government. The sub-section Social Media, Archives and Records Management includes readings which explore the issues of records in social media environments and the challenges and issues these new technologies present for archivists and records managers. The sub-section Evidence, e-Discovery and Legal Issues includes readings that focus on a sampling of the literature that has been written by lawyers and other legal professionals on the implications of records creation and storage in social media environments and the challenges social media content poses to e-Discovery. Finally, the sub-section Web 2.0: Government and Organizational Use includes readings on the use of social media in government and organizations, the types of social media technologies governments and organizations are using and the implications for policy and records management.

The Internet and Web 2.0

Anderson, P. "What is Web 2.0? Ideas, Technologies and Implications for Education." February, 2007. Available from JISC Technology and Standards Watch http://www.jisc.org.uk/media/documents/techwatch/tsw0701b.pdf

Anderson defines Web 2.0 and social software and explores their potential implications for higher education in the U.K. He defines social software as a class of networked tools that

[1] Andreas M. Kaplan and Michael Haenlein. "Users of the World, Unite! The Challenges and Opportunities of Social Media," *Business Horizons* 53, no. 1. (2010): 59-68.

support collaborative learning while allowing individuals control over their time, space, presence, activity, identity and relationships. He provides comprehensive definitions of a number of Web 2.0 participatory technologies including wikis, blogs, mashups, tagging, social bookmarking and social networking. Anderson effectively and thoughtfully explores the nascent ideas of Sir Tim Berners-Lee's Web and Berners-Lee's issues with Web 2.0, as well as Tim O'Reilly's Web 2.0. He looks at six key ideas: user generated content; harnessing the power of the crowd; data on an epic scale; architecture of participation; network effects; and openness. This report also delves into technology and standards as they pertain to Web 2.0 and social software, provenance and preservation of this information, particularly the Semantic Web and the emerging field of Web Science. Anderson's article is often cited in academic and professional literature because of its comprehensive definitions of Web 2.0 and social media technologies.

Armstrong, Jill et al. "A Review of Current and Developing International Practice in the Use of Social Networking (Web 2.0) in Higher Education," September, 2008. Available from Franklin Consulting http://franklinconsulting.co.uk/LinkedDocuments/the%20use%20of%20social%20networking%20in%20HE.pdf

This report is based on five commissioned reports on Web 2.0 in higher education (HE) from Australia, the Netherlands, South Africa, the United Kingdom and the U.S., as well as a qualitative survey with 180 responses from other countries and institutions. The researchers reviewed literature, case studies, statistical analysis and observational methods. The report identified where Web 2.0 technologies are being used, incentives to use them, their perceived advantages and disadvantages and concluded they are being used in nearly all areas of HE. Privacy and intellectual property were areas of concern for students, educators and institutions. Web 2.0 applications are increasingly replacing desktop applications for the creation of information and collaboration; "Web 2.0 matters to universities" because students will increasingly expect to use them to "provide a new set of powerful educational affordances."

Bernoff, Josh and Charlene Li. "Harnessing the Power of the Oh-So-Social Web." *MIT Sloan Management Review* 49, no. 3 (Spring, 2008): 36-42.

This article approaches companies' use of social media/Web 2.0 technologies from a marketing perspective. The authors interviewed managers and employees at over 100 companies

that were introducing social applications. How customers are "tilting the balance of power from company to customer" is explored – customers are connecting with each other via social media technologies and creating their own definitions of companies and their brands which can be "at odds" with the image these same companies would like to project. The shift in use of social media by customers and companies is driving companies to move beyond just "dabbling" with these new technologies and actively incorporate them into how they carry out their business functions –"with the increase in social participation among consumers and the growing sophistication of the underlying technologies, it's now possible to put social applications on an equal footing with other business projects…they can deliver measurable progress toward significant, strategic business goals." Examples of how companies and individuals are using social media technologies is explored by theme – Research and Development Applications; Marketing Applications; Sales Applications; Customer Support Applications; and Operations Applications. The authors point out that social media is not just a shift in technology use, but also more importantly a shift in the culture of organizations and how they interact with their customers. Social media use by customers and companies has shifted how companies interact with their customers. As companies become more adept at utilizing social media applications – how effectively they use them and for what purposes will continue to grow.

Boyd, Dana M. and Nicole B. Ellison. "Social Network Sites Definition, History, and Scholarship. *Journal of Computer-Mediated Communication* 13, no. 1 (2007): unpaginated. http//jcmc.indiana.edu/vol13/issue1/boyd.ellison.html

This article defines social network sites (SNSs) and outlines their features and establishes a comprehensive definition of SNSs: "Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site." A history of SNSs is outlined in the article, highlighting key changes to the technology and developments of SNSs over time. Other research to date into SNSs is also touched upon.

Bughin, Jacques, James Manyika and Andy Miller. "Building the Web 2.0 Enterprise: McKinsey Global Survey Results." ***The McKinsey Quarterly*** **(July, 2008). Available from http://www.mckinseyquarterly.com/Building_the_Web_20_Enterprise_McKinseyGlobal_Survey_2174**

This article presents the results of a survey conducted in June 2008 for *The McKinsey Quarterly*. The study surveyed 1,988 executives from around the world, asking questions relating to their company's business use of Web 2.0 technologies (including wikis, blogs, social networks, and mash-ups). According to the article, "companies are not only using more [Web 2.0] technologies but also leveraging them to change management practices and organizational structures" (2). Bughin, Manyika and Miller found that Web 2.0 technologies are having a fundamental effect on the way that companies operate. "As Web 2.0 gains traction, it could transform the way companies organize and manage themselves, leading to what some have dubbed Enterprise 2.0" (7). The survey establishes the prevalence of Web 2.0 technologies within the business community, noting that they are facilitating collaboration between internal and external stakeholders and breaking well-established rules and practices of information and records creation.

Carr, Nicholas. ***The Shallows: What the Internet is doing to Our Brains.*** **NY: W.W. Norton, 2010.**

This book stems from Carr's well-known *Atlantic* cover story, "Is Google Making Us Stupid?" Carr draws on a wide range of literature and schools of thought to understand what changes are occurring as we engage more with the Internet – from how we read and understand to how our brains react to this shift in our privileging of technologies. From McLuhan's theories of medium to the latest research on brain plasticity Carr argues that communication technologies are imbued with an ethic. As our bias towards new technologies shift, Carr argues that in order to effectively adapt our capacities to them we must lose or lessen capacities that were bias towards previous technologies.

Carton, Sean. "Web 2.0: What Is It Really?" ***ClickZ*** **(March 5, 2007) Available from http://www.clickz.com/3625146**

The author argues that it is not the products that define Web 2.0 but an ongoing shift in the nature and possibilities of the web that help define it. The author outlines six elements that define the change: data abstraction (freeing information from its containers); broadband

(assumption bandwidth is readily accessible); connections (move from a one-to-many model to a many-to-many); people (putting the needs of users first); allowing people to manipulate data, not just retrieve it; and Web 2.0 allows for things that cannot be done in any other medium.

Doctorow, Cory. *Content: Selected Essays on Technology, Creativity, Copyright and the Future of the Future.* NY: Tachyon Publishers, 2008.

This book is a collection of Doctorow's essays spanning the years 2003 to 2008 (the majority of essays are from 2007/08) that were previously published in a variety of places including the tech blog *Boing! Boing!, The Guardian*, and *Information Week* and talks given to Microsoft and others. Doctorow discusses a variety of topics, including copyright, DRM, e-books and Wikipedia, and the impact of technology on their existence and/or transformation. He draws on a variety of sources, both scholarly and anecdotal to raise issues and elicit debate.

Gantz, John F. et al. "The Expanding Digital Universe." March, 2007. Available from International Data Corporation, accessed November, 2010.

Published in March 2007 this IDC (International Data Corporation) report gives a broad overview of the sate of digital information globally – how much is created, stored, accessed and its potential growth. The report highlights issues that will arise due to the vast amounts of information being created. Issues of information security and privacy protection are highlighted as concerns that will be high on the agenda of business. Issues around compliance rules and standards will be of growing concern as digital information grows exponentially. Implications for organizations concerning "privacy, security, intellectual property protection, content management, technology adoption, information management, and data center architecture" are amongst the issues the report cites as resulting from a growing amount of digital information. Understanding the value of information and adopting a "disciplined approach" to its management is key and can be accomplished through "policies, processes, practices, services and tools" that help to manage information with business value.

Howe, Jeff. *Crowdsourcing: Why the Power of the Crowd is Driving the Future of Business.* New York: Crown, 2008.

This book addresses the use of social media – particularly the tools that encourage crowdsourcing – in the business environment. Howe coined the term crowdsourcing to explain how businesses were enlisting masses of individuals to hype a brand or product or for efforts of

mass collaboration to solve problems. Howe explores different crowdsourcing models in the book, and draws heavily on academic research to unpack and explain how and why crowdsourcing and mass collaboration by individuals works. Howe outlines four models of crowdsourcing – "collective intelligence"; "crowd creation"; "crowd voting"; and "crowdfunding."

Jeanneney, Jean-Joel. *Google and the Myth of Universal Knowledge.* Chicago: University of Chicago Press, 2007.

Jeanneney argues that Google's Library Project has serious negative consequences for world cultural heritage. He suggests that Google's approach, through partnering with select libraries and digitizing works mostly in English, is a selective misrepresentation of the world's cultural heritage. Jeanneney focuses much attention on the language imbalance and the Anglo centric bias under which Google's project operates. He calls for more long-term planning in moves to digitize the world's knowledge that is inclusive of multi-lingual, multicultural perspectives. Former Librarian and Archivist of Canada Ian Wilson provides the foreword to the book in which he frames the Google project in the context of the professional realm of librarians and archivists. Wilson highlights the major flaws in Google's project – bias and limitation in selection of subjects; its representation of an "impatient" marketplace; its lack of mandate to uphold global diversity and access; and its lack of recognition of the importance of context. Wilson does not discount the value of search engines in bringing the contents of archives and libraries to the public, but he warns of an approach based on the swift demands of the marketplace – "it must be done with some thought not just to the immediate expectations of the market but for the future of our inherited knowledge resources" (xiii).

"What Americans Do Online: Social Media and Games Dominate Activity." *Nielsen Wire Blog,* August 2, 2010. http://blog.nielsen.com/nielsenwire/online_mobile/what-americans-do-online-social-media-and-games-dominate-activity/

This is a blog posting reporting on statistics collected by Nielsen on the online activities of Americans. The findings state two-thirds of the Internet population utilizes social media sites and that Internet users spend more than 10% of their online time on social media sites with usage steadily increasing.

O'Reilly, Tim. "What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software." ***O'Reilly Blog*****, September 30, 2005. http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is- web-20.html**

This influential paper outlines what O'Reilly coined Web 2.0 or the next incarnation of the World Wide Web, its characteristics and how it differs from Web 1.0. It includes the Web 2.0 meme map, which illustrates the characteristics of a Web 2.0 environment – "strategically positioning" the Web as "services, not packaged software; architecture of participation; cost-effective scalability; remixable data source and data transformations; software above the level of a single device; and harnessing collective intelligence" (3). O'Reilly defines Web 2.0 as a set of "principles and practices that tie together a veritable solar system of sites" that employ some or all of these characteristics. The article is effective in communicating the shifting nature of the Web and the implications of these shifts.

O'Reilly, Tim and John Batelle. "Web Squared: Web 2.0 Five Years On." October, 20, 2009. http://www.web2summit.com/web2009/public/schedule/detail/10194

In this follow up to their coining of the term Web 2.0 five years earlier, O'Reilly and Battelle put forth what they believe will be the next direction of the web. Themes include: redefining collective intelligence; how the web learns (explicit vs. implicit meaning); web meets world ("information shadow" / "Internet of Things"); and the rise of real time. Their discussion around the mapping from unstructured data to structured data sets poses interesting issues for records and their management over time.

Organization for Economic Cooperation and Development (OECD). "Participative Web and User-Created Content: Web 2.0, Wikis and Social Networking." 2007. Available from Directorate for Science, Technology and Industry. http://www.oecd.org/document/40/0,3746,en_21571361_38620013_39428648_1_1_1_1,00.html

This report is one in a series that was prepared by the OECD that examines digital broadband content in the context of value chains and business models, it describes the increasing growth of user-created content (UCC) and draws out implications for policy. The study defines UCC and examines its social and economic challenges. The increase in UCC affects users, organizations and policymakers. Policy issues are identified and cited as shaping business and regulatory environments and issues around government created content. Other issues identified included intellectual property rights and how to define issues of fair use and copyright exceptions

in relation to UCC; preservation of UCC; privacy issues and regulatory questions around virtual worlds.

Quitney, Janna and Lee Rainie. "The Impact of the Internet on Institutions in the Future." March, 2010. Available from Pew Internet & American Life Project.

This report presents the findings of a survey carried out by the Pew Research Center and Elon University on the future directions of participation and utilization of the Internet by for-profit and non-profit organizations and government agencies by the year 2020. The Center surveyed 895 technology stakeholders and critics from industry, academia, government, IT, research, and the non-profit sector. Findings include a consensus among respondents that the Internet will continue to prompt institutional change through large-scale collaboration and innovative use of technologies. There was divergence on how long such institutional change will take, with many respondents stating it would happen in business more rapidly than in government agencies and non- profit organizations. "Even where the shapes of institutions persist, their internal functions must be ready to listen, and to participate in the market's conversations, even when those take place outside of the institution's own frameworks" (7). The number and nature of technological innovations combined with social and political expectations results in an inevitable change in the current institutional models. Expectations in the workplace are changing with relation to communication with priority given to "real-time" information and increased accessibility.

Scholz, Trebor. "Market Ideology and the Myths of Web 2.0." *First Monday* 13, no. 3 (March, 2008): unpaginated. Accessed February 28, 2010. http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2138/945

In this essay Scholz explores the history and evolution of Web 2.0 definitions, leading up to Tim O'Reilly's admission that it was probably not the right term to use. Scholz does not see Web 2.0 as a "techno-social big bang" but instead sees it as an inevitable growing process building on what has come before. He states: "The Web had an initial astronomical growth spurt but is now moving on with unfaltering instead of explosive pace." Scholz argues that today's social Web should not be defined through "the lens of business" but should be re-imagined as a place for "unmarketed, non- mainstream projects that caters to all needs of those who inhabit it."

Shirky, Clay. *Here Comes Everybody: The Power of Organizing without Organizations.* New York: Penguin, 2008.

Shirky examines the intersection between technology and societal change. Throughout the book Shirky makes the argument that how we create, disseminate and cooperate are changing the communication landscape in drastic ways. He draws on economic theory and anthropology to examine social media technologies and their role in contemporary society. Shirky calls up contemporary examples of how technology has afforded individuals the ability to cooperate and create in ways that were not possible prior to social media technologies. Shirky makes the argument that it is not the technologies in isolation that are creating this paradigm shift, but the behaviours that these technologies afford.

Tapscott, Don and Anthony D. Williams. *Wikinomics: How Mass Collaboration Changes Everything.* New York: Penguin, 2006.

Tapscott and Williams effectively unpack how social media can be used in business. The authors explain the mechanics of mass collaboration and its ability to generate ideas and solve problems. This book shows how a top-down, hierarchal model is being challenged in an environment where collaboration is valued and sought as a means of knowledge creation and growth. The book opens with the example of Goldcorp, a struggling Canadian mining company who chose to put its maps and research online in attempts to take advantage of crowdsourcing – and it was effective and is noted as an early success story of social media use in a traditional business environment. Other examples of successful use of social media technologies by companies are detailed in the book. The book is jargony at times, but is a good primer for the potential of social media to change the traditional business environment.

Zimmer, Michael. "The Externalities of Search 2.0: The Emerging Privacy Threats when the Drive for the Perfect Search Engine meets Web 2.0," *First Monday* 13, no. 3 (March, 2008): unpaginated. Accessed February 28, 2010. http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2136/1944

The author explores the unintended consequence of the increased flow of personal information across Web 2.0 infrastructures, when they are incorporated with Web search engines to make the perfect search engine, resulting in what the author calls Search 2.0. This mix makes personal information more vulnerable than ever before, as one can get a comprehensive record of user's online activities. The privacy issues of Search 2.0 are discussed, including data

surveillance, or dataveillance. The author then details the potential effects of Search 2.0, including exercising of disciplinary power against users, the panoptic sorting of users and invisibility and the inescapability of Search 2.0's impact on user's online activities. The author then talks about the law and regulations to try and regulate the use of personal information by search engines, the problems with self regulation and the fact that we can try to impact the design of the technology itself to solve the major privacy issues.

Social Media, Archives and Records Management

ARMA International. "Implications of Web-Based, Collaborative Technologies in Records Management DRAFT." (2010).

This is a draft American National Standard Institute (ANSI) standard prepared by ARMA International to provide guidance to records managers who are working with both internal and external web-based collaborative technologies (social media/networking tools). The standard adheres to ARMA's *Generally Accepted Recordkeeping Principles* (GARP) – accountability, integrity, protection, compliance, availability, retention, disposition, and transparency. The standard outlines program components for web-based collaborative technologies covering governance; legislation, laws and regulations; technology; risk management and security; policies and procedures; processes and controls; change management; training; and auditing and evaluation. A final version of this standard was approved on January 13, 2011.

Bak, Greg. *Impacts of Web 2.0 on Information Models: Life Cycle and Continuums*. Ottawa: 2010. Available from Library and Archives Canada www.collectionscanada.gc.ca/obj/012018/f2/012018-3403-e.pdf

This is one of four "thought papers" that explores recordkeeping and Web 2.0 at LAC. The papers are intended to articulate the challenges and impacts of Web 2.0 and begin a dialogue around potential solutions to some of the issues. Thought papers are an institution-wide practice at LAC that aims to foster dialogue and participation around problem solving and articulating solutions.

Bak argues for a continuum approach to records/information in Web 2.0 environments. The trends of information overload, the failure of command and control recordkeeping, and the de-centering of authority have accelerated and Bak argues Web 2.0 is an environment "perfectly suited" to these trends. The lifecycle model is purported to be ill suited to the information

resources in Web 2.0 environments. The concept of information resources remaining "evergreen" is introduced, where disposition may never occur due to multiple collaborators continually transforming information resources.

Bak, Greg. *Managing Business Value in Web 2.0 Environments.* Ottawa: 2010. Available from Library and Archives Canada http://www.collectionscanada.gc.ca/digital-initiatives/012018-3404-e.html

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This paper discusses the Web 2.0 tools and their appropriateness for different tasks and balancing collaboration utilizing social media. LAC Business Value Guidelines are discussed in relation to Web 2.0 environments – identifying information resources of business value and potential ways of managing it.

Bailey, Steve. *Managing the Crowd: Rethinking Records Management for the Web 2.0 World.* London: Facet Publishing, 2008.

This book explores the effects Web 2.0 technologies are having on records management. Bailey identifies what he believes is a gap between records management theory and practice, particularly with records created utilizing Web 2.0 technologies. The book is divided into two sections – "The Nature of the Changing World" and "Is Records Management No Longer Fit for Purpose?" The former defines Web 2.0 technologies and their use in the workplace, and the latter examines why current records management (archival) theories need to catch up to social software and Internet technologies. Bailey puts forth some provocative ideas in an attempt to instigate dialogue about the present and future impact Web 2.0 technologies are having on the contemporary records management environment. Bailey questions the validity of current appraisal and classification schemes in social networking/digital recordkeeping environments. Bailey focuses on records creators and how they are reshaping the office environment. He urges a new approach rather than making creators adjust to dated practices.

Burger, Karine. *Re-examining the Foundations of Information Management in a Web 2.0 World.* Ottawa: 2010. Available from Library and Archives Canada http://www.collectionscanada.gc.ca/digital-initiatives/012018-3402-e.html

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This paper examines how Web 2.0 is impacting the foundations of records and information management and how LAC can begin to address these challenges. It discusses in length the nature of Web 2.0 environments and its characteristics as they pertain to a shifting environment for record creation, sharing and use – noting the fluidity of information in 2.0 environments and the complexity of networks and systems. The multiplicity of perspectives around information value is discussed – "information is virtual, unfixed and continually changing…we must be proactive in re-examining theoretical constructs if we are to acquire, preserve and make accessible Canadian documentary heritage." A "critical assessment" of Web 2.0 technologies is required. LAC's involvement in recordkeeping and Web 2.0 includes the areas of: Web 2.0 usage in internal government departments, at the interface of government and the public, at the interface of other recordkeeping communities and the public, and use in Canadian society. With increasing use of Web 2.0 within the government, business value of these records/information must be identified and managed. "Functions of information that are important from a recordkeeping perspective, such as the evidentiary function of the record, will not have disappeared but been translated to Web 2.0 environments where they may display different characteristics for the same underlying function."

Chapman, Andrew. "Managing Social Data: Is SharePoint the Answer?" *Information Management Magazine* (March/April, 2010): 22-26.

This article discusses the potential of SharePoint as a means of managing social data in organizations. Chapman defines content created by social media technologies as "social data" not really making a distinction between data and records. The article effectively highlights the unique characteristics of social media content and its potential impacts for records managers, but its focus on SharePoint detracts from any really high level solutions.

Dearstyne, Bruce W. "Blogs, Mashups, and Wikis Oh My!" ***The Information Management Journal*** **(July/August 2007).**

In this article, Dearstyne discusses the creation of records and documents with Web 2.0 applications from the perspective of records and information managers. Issues of custodianship; institutional information and recordkeeping policies; records creation, storage and dissemination; access, privacy and security; and legal issues are examined. Dearstyne focuses primarily on wikis, blogs and mashups and their ability to facilitate greater collaboration and knowledge sharing, often through document sharing and collaborative software. The growth of social networking and Web-based services and applications allows users to create, exchange, analyze and disseminate information and has altered the way documents and records are used and shared, creating new challenges for records management and information professionals.

Franks, Patricia C. "Understanding Web 2.0 and Challenges for the Records Manager." ***Information and Records Management Annual*** **(2009): 107-121.**

This article is a primer on Web 2.0 technologies and the records management issues and risks they present. Web 2.0 tools and technologies are identified and defined and placed into a context of "spheres of activity" which include communication, interaction and web services. These technologies are being adopted by workers and organizations and can be incorporated successfully into organizations. Franks outlines the records management risks associated with these technologies and suggests how they may be mitigated and addressed through organizational social media policies.

Franks, Patricia. "How Federal Agencies Can Effectively Manage Records Created Using New Social Media Tools." 2010. Available from IBM Center for The Business of Government.

In this report, Franks situates the challenges of managing records using social media tools in the U.S. federal government recordkeeping context. Franks gathered data from an analysis of federal agency websites and their social media use as well as from interviews with federal government employees responsible for social media and records management within federal agencies. The report examines the evolution of records management in the U.S. federal government, establishing a framework in which she situates the use of social media tools by federal agencies. The report makes recommendations in four areas to address the challenges faced by managing records created with social media records – governance, policy, technology

and capacity. The report also contains a number of appendices which address issues identified in the report, two in particular which can be extrapolated to an audience beyond the U.S. federal government – *Social Media Policy Considerations for the Records Managers* and *Social Media Records Management Considerations for Website Managers.*

Henhoeffer, Sharon. *Web 2.0 and Recordkeeping: Context and Principles.* Ottawa: 2010. Available from Library and Archives Canada
http://www.collectionscanada.gc.ca/digital-initiatives/012018-3401-e.html

This is one of four "thought papers" that explores recordkeeping and Web 2.0 at LAC. The papers are intended to articulate the challenges and impacts of Web 2.0 and begin a dialogue around potential solutions to some of the issues. Thought papers are an institution-wide practice at LAC that aims to foster dialogue and participation around problem solving and articulating solutions.

This paper outlines what LAC has identified as the context and principles of Web 2.0 and recordkeeping. The paper is framed as a response to its recordkeeping mandate and requests from Government of Canada agencies on how LAC will address the impacts of Web 2.0 on recordkeeping and archival functions. LAC conducted an international review of how similar organizations are approaching the issues of Web 2.0. LAC identifies Web 2.0 as a "tipping point" in digital information. Web 2.0 must undergo analysis on how it can be managed in order to develop policies, directives and guidance. Because elements of Web 2.0 are transforming methods and practices across many disciplines the balance is shifting from an analog approach to an almost entirely digital recordkeeping environment. It is not enough to retrofit analog approaches, Henhoeffer argues, a new approach must be sought. "This [retrofitting paper techniques] is not sustainable, particularly given the dynamic and simultaneous nature of digital media, global connectivity, the sheer abundance of information, growing user influence and the increasing convergence and interdependence of form, content and professions." LAC is seeking to "transcend linear and delineated models to develop a mandate-focused model that is based on principles of significance, sufficiency, sustainability and societal relevance."

Lauriault, Tracey P., Barbara L. Craig, D.R. Fraser Taylor, and Peter L. Pulsifer. "Today's Data are Part of Tomorrow's Research: Archival Issues in the Sciences." *Archivaria 64* (Fall, 2007): 123-179.

This article examines the preservation of scientific data and the unique characteristics that make its preservation challenging from an archival perspective. The authors also "address the concept of the record in the context of Web 2.0 environments" (124). According to Lauriault, Craig, Taylor and Pulsifer, the problem lies in the "fundamental difference in perspective between creators and preservers, compounded by the emergence in all disciplines of ephemeral interactive information, which exists only in cyberspace" (160). The authors conducted an extensive literature review of scientific publications and drew on empirical evidence gathered from InterPARES 2 case studies with a scientific focus. They explored the accuracy, reliability, authenticity, metadata and the definition of the term "record." This "interactive, social, and personalized information" (160) begs further investigation into its unique nature and requirements and ability to function as a record for future researchers.

Moss, Michael. "Without the Data, the Tools are Useless; Without the Software, the Data is Unmanageable." *Journal of the Society of Archivists* 31, no. 1 (2010): 1-14.

Moss uses the perspective of one of Tim O'Reilly's aphorisms (see title of article) as his jumping off point to discuss the relationship between digital technologies in a Web 2.0 environment and the role of archivists and records managers in "curating" information in this context. Moss argues for a "sharing of responsibility within a framework of trust" as it comes to light that it is not focusing on the "inputs" and "outputs" that will effectively manage the risk that inherently lies in these technologies, but a need to effectively manage the processes.

Moss uses the recent financial crisis as an example of the need to move beyond a focus on the technologies themselves, toward the content generated with the technologies and the processes that created the records. "An inevitable outcome of the current crisis and accompanying recession will be a rebalancing of organisations away from technologies towards data or content in response to societal pressure reflected in tightening regulation" (2). Moss highlights the affordances of Web 2.0 ["harnessing collective intelligence"; "leveraging the long tail"; "lightweight user interfaces, development models, and business models"] and the issues these raise for records, which must be addressed by archivists/records managers – "authenticity, integrity and trust" (2). Moss argues for a shared responsibility between records managers within

an organizational context and archivists in a public archives – he argues that while this a framework that is "uncomfortable" for archives and records managers, it is necessary in a Web 2.0 digital environment where responsibilities for trust, governance and regulation must be shared in such a framework (7).

National Archives and Records Administration. "Implications of Recent Web Technologies for NARA Web Guidance." November, 2010. http://www.archives.gov/records-mgmt/initiatives/web-tech.html

This report examines some social media applications and their impact on records management at NARA. Four social media applications are examined – web portals, RSS feeds, blogs and wikis. The applications are discussed in their ability to link process, put content into new contextual patterns and actively deliver content (3). Five characteristics of these applications that have an impact on records management are identified – interactive aspects; collaboration; aggregation; incremental content; and content replication. The interactive functions of the applications allow communities to participate to varying extents. The ease of collaboration via web access facilitates ease of project participation and/or document creation regardless of geographical context. All of the applications afford for aggregation of disparate resources created in new contexts – having the potential to "change the significance of the original content" (5). By its very nature, much web content is incremental because of it is continually updated. The same content, from different locations on the web or in different formats may be made available in new locations and in different formats.

The report raises a number of records management issues relating to the applications. The interactive and collaborative nature of the applications "broadens the range of authorship" and can extend beyond the agency's records management policies. The uniqueness of the content residing in these applications should be acknowledged, event that which resides outside of the agency. Because these applications can be used for either ongoing, indefinite projects or finite projects, risk assessment should be employed to determine what content needs to be retained as records and how often this should occur. Issues of trustworthiness of content created and maintained in these applications is an issue as such content may not have sufficient information to establish integrity, authenticity, reliability and usability.

National Archives and Records Administration. "A Report on Federal Web 2.0 Use and Record Value." 2010. Available from *NARA National Records Management Program*

This report presents the findings of a study undertaken by NARA into how U.S. federal agencies are using web 2.0 tools to conduct business and how the use and the characteristics of these tools may affect the value of information created and shared in web 2.0 environments. NARA interviewed six federal agencies using web 2.0 tools and that have policies and procedures for the implementation and use of these tools. NARA also held focus groups for an additional nineteen agencies to gain a wider understanding of federal web 2.0 use.

The report finds that from a records value perspective, "web 2.0 content is best analyzed based on function and use of the information, not solely the platform or tool." The study describes tools based on their functions and use and identifies specific characteristics that affect the record value of information created with web 2.0 tools – extensive duplication; ability to record numerous aspects of process; ability to reach new audiences; added structure and content and overall perceptions of the authoritativeness and longevity of content. The study finds that records should continue to be assessed based on business, evidential, informational and contextual values. The report addresses the rapid growth and change of web 2.0 technologies and stresses the need to be proactive in order to develop effective solutions to the complexities of these tools. The report makes a number of recommendations. NARA must clarify how the U.S. Federal Records Act's definition of a record applies to web 2.0 information; records management must be integrated into social media policy; partnerships should be developed to identify best practices for management and capture of social media records; transfer requirements for social media records should be examined and a new General Records Schedule item should be developed for social media records.

Ramienski, D. "Records management roadblocks and Web 2.0 initiatives." June 3, 2009. Available from Federal News Radio http://www.federalnewsradio.com/?nid=35&sid=1688655

This article is a précis of a radio interview with Cheryl McKinnon, a director of the enterprise 2.0 program management team for Open Text. McKinnon likens the early adoption of Web 2.0 applications by federal agencies to email 15 years ago. Individuals began using the technology for personal use and it began to migrate into the workplace. McKinnon stresses the

importance that employees and agencies recognize that Web 2.0 applications can create records and that the way to effectively manage them is to understand the technologies that created them.

Read, Scott and Ed Lee. "Social Networking Goes Corporate." n.d. Available from Association for Information and Image Management http://www.aiim.org/infonomics/social-networking-goes-corporate.aspx

This article addresses the increased risk and litigation exposure organizations, which engage in social networking uses are exposed to and suggests some ways to mitigate these risks. The authors outline four "typical" scenarios around which corporate impact of social networking revolves: a formal presence with a clear objective; rogue initiatives by employees in pursuit of legitimate business goals; personal use by employees; and third-party commentary related to company, products or services. A report by Deloitte shows businesses using a combination of internal and external social networking tools and that these can present challenges around ownership and control of information. Addition issues raised by the authors include e- discovery, intellectual property and trade secrets issues, records management issues and liability of content online. The authors detail a number of ways to mitigate the risk of utilizing social media including gaining a full understanding of your organization's social networking use and objectives, establishing policies, training employees and monitoring.

Senecal, Sylvain. "The Effect of the Web on Archives." *Archivaria* 59 (Spring, 2005):139-152.

The author questions the applicability of the archival fonds as an effective construct in the context of the environment of Internet. He argues that the current definition of records in archival theory may not be sufficient for potential records created in a networked environment. Senecal argues that the organic metaphor that "allows for the development of an interpretive context based on the historical unfolding of a continuity or actions" (140) is increasingly difficult to sustain when confronted by "new modes of economic and social co-operation in cyberspace" (140). Conceptions for the Internet and archives are grouped under three categories: a technical perspective in which information equals data that can be produced, distributed, and destroyed, or "archived"; the content perspective which sees the Internet as a series of sites which house content; and the work-space perspective which sees the Internet as a "specific and co-operative work-space" (148). The author argues there is an emerging collective intelligence online and what it produces "challenges traditional archival thought about the notion of a creator of a fonds"

(149). "Awareness of today's social discourse concerning the nature of social action in the context of a rapidly evolving Internet forces the archivist to clearly elucidate the analytical framework used in archival work, especially the practice of documentary selection and, increasingly, that of description" (152).

State of New South Wales. "Guideline No. 24: Records Management and Web 2.0." March, 2009. Available from NSW Department of Commerce State Records.

This guideline is written to be a guide for NSW public office records managers on understanding the issues surrounding the use of Web 2.0 applications in record creation. The guideline includes definitions of a variety of social media tools and examples of their use in a public office. Records are defined and indicators on how to identify records created with Web 2.0 technologies are provided. Steps in appraising Web 2.0 products for their record value are included and identified as an effective means of establishing Web 2.0 records. A number of problems are outlined with accompanying advice. Much of the advice focuses on examining existing policies and procedures, user education and awareness, and risk assessment.

Streck, Helen. "Social Networks and Their Impact on Records and Information Management." January, 2011. Available from ARMA International Education Foundation.

This report, sponsored by the ARMA International Educational Foundation, is intended to provide an overview of social networks, identify the real and "perceived" issues (from a RIM perspective), identify social network characteristics that impact RIM professionals and the RIM profession and identify some legal issues around social networks and RIM. Streck conducted a survey of over 1,000 RIM, ITR, and legal professionals in the U.S., participated in six social networks over the course of a year and a half, did a literature review, and interviews. Streck's statements about generational differences and the characteristics of certain generations are without any stated data or source(s). It is not clear how she has utilized the data she collected throughout the report. Streck states her methodology at the beginning of this paper, however, there are few clear citations throughout to any other research. How she has analyzed and used her research is difficult to interpret in this paper.

Streck gives a history of social network sites and puts their use into context. There are many generalizations made regarding generational differences in use of and approach to

technology without any reference to what data/research these statements are based on. Streck argues for the need of organizations to address RIM issues that arise from social network use with policy and training. She does effectively highlight some of the issues that result from organizational use of social networks and draws attention to the organization's responsibilities in addressing these issues. One of the more interesting sections of the report is a brief section on e-discovery challenges that draws on one interview and identifies some of the challenges relating to social network use by organizations and e-discovery.

Evidence, e-Discovery and Legal Issues

El Akkad, Omar. 2011. "Would you use Facebook to get your medical-test results?" *Globe and Mail,* February.

This is an article on the role of user authentication to access personal and private information such as medical records. The author highlights Facebook's drive to be a major player in Internet use IDs and why governments and organizations that handle private information would be very hesitant to adopt such a model – trust. The author points out the disconnect between the motivations of a for-profit model such as Facebook handling ID management and the robust privacy requirements of governments which handle individuals' private information.

Financial Industry Regulatory Authority. "Regulatory Notice: Social Media Websites." January, 2010. Available from FINRA http://www.finra.org/industry/regulation/notices/2010/p120760

This report issued by the Financial Industry Regulatory Authority (FINRA) provides guidance to financial firms and professionals on applying the rules governing communication with the public on the use of blogs and social networking sites. Outlined in a Q & A format, the report addresses recordkeeping responsibilities, suitability responsibilities, types of interactive electronic forums, supervision of social media sites and third-party posts.

The report highlights issues unique to the financial industry when communication via the public utilizes social networks. Issues around static versus dynamic and interactive content raise recordkeeping and compliance issues – because communication between an advisor and a client that recommends a particular product must ensure that the recommended product is suitable for the client receiving the advice, it is extremely important for the firm to understand the

characteristics of the social networking and/or blog technology and how the content is transmitted and maintained in order to be in compliance with financial regulations and laws. Additional issues include third-party posts and approval of posted content by supervisors. There are numerous mentions throughout the report about the need for firms to develop policies and procedures to ensure compliance on behalf of the firm and its personnel. There is a requirement in various aspects of the rules around communication with the public that requires clear policies and procedures are communicated by firms to their personnel.

Gellman, Robert. "Privacy in the Clouds: Risks to Privacy and Confidentiality from Cloud Computing," 2009. Available from World Privacy Forum

This report outlines the issues and implications for privacy of personal information and confidentiality of business and government information managed and stored in the cloud. Gellman investigates the legal and jurisdictional implications for information stored in the cloud, particularly around the disclosure of information to cloud providers and its consequences for users (e.g., trade secrets may become vulnerable to protection; personal information stored across jurisdictions may be subject to searches by law enforcement, etc.). Clearly defined parameters for the protection of personal information may be at risk in the cloud, making it difficult to assess the status of information residing in the cloud. The report makes recommendations for cloud computing providers in the areas of policies and standards in order to address the risks and consequences of cloud computing, as well as proposing changes in legislation that address cloud computing and it specific issues.

Gerber, Robert S. "Mixing It Up on the Web: Legal Issues Arising from Internet 'Mashups'." *Intellectual Property & Technology Law Journal* 18, no. 8 (August, 2006): 11-14.

This article defines mashups and examines the legal issues relating to their creation and use. Because they are a combination of data from a number of sources (e.g., public government datasets, Google map data, etc.) there are a number of legal issues inherent in these creations. The legal issues detailed in this article include: contract law, copyright law, patent law, trademark law, unfair competition and false advertising, obscenity, rights of privacy and publicity law and warranty issues.

Kisthardt, Mary Kay and Barbara Handschu. "Using Social Network Evidence in Family Court." ***Law Technology News*** **(September, 2010) http://www.law.com/jsp/lawtechnologynews/PubArticleLTN.jsp?id=1202472265541**

Social media content is a major contributor to the increase in the use of electronically stored information as evidence in family law litigation according to the authors, citing an 81% increase in the use of social networking evidence in the last five years. The article cites Facebook as the "unrivaled leader for online divorce evidence." According to the authors, information may be easy to obtain, but more difficult to get admitted as evidence. The court (*Lorraine v. Market Am. Insurance Co.)* identified five hurdles that must be cleared in order to introduce ESI. The information must be relevant; there is a requirement that the proponent authenticate the information; the hearsay exception may need to be proved; the hurdle of "original writing" must be overcome; and probative value must be established.

Knutson, Ted and Jeffrey Kutler. "Social Media Problems." ***Risk Professional*** **(June, 2010): 28-32.**

This article examines social media use by organizations from a perspective of risk, focusing on regulatory, security and risk management issues. "Social media, in short, epitomizes business opportunity and risk. They are both a bonanza and a disaster waiting to happen" (28). Citing a PricewaterhouseCoopers survey of over 7,000 security and IT professionals worldwide, the authors point out the despite the high potential for risk, only 23% had adopted policies to defend Web 2.0 technologies. Citing an attorney who specializes in privacy, security and data management, the article states that "the more regulated a company is, the more vulnerable it is to legal actions for social media abuse, and that consumer businesses are more likely to sustain social media attacks than are business-to-business organizations" (30). The authors advocate controls and policies as the most effective ways to mitigate risk in social media use. The article includes a one-page social media policy template.

Kroll Ontrack. "Social Media: From Chat Room to Courtroom." ***Kroll Ontrack OnPoint Blog,*** **March, 20110. http://www.krollontrack.com/blog/post/Social-Media- From-Chat-Room-to-Courtroom.aspx**

This article addresses the challenges to privacy and methodology of the collection of social media evidence used in court cases. Social media are now "go-to" places for parties looking for evidence for legal proceedings. Data extracted from social media sites are being used

in both civil and criminal cases ranging from personal injury to intellectual property violations. Because social media data (potential records) exist "in the cloud" it is often unclear which laws apply to the collection and use of this information – the authors warn caution and careful recordkeeping when collecting and accessing social media data to ensure compliance. Because authentication of evidence is predicated on the neutrality and process, and evidence extracted from social media sites is derivative (so it "always differ slightly from the original), how it is collected and preserved is of issue. Third-party collection and preservation of social media data is recommended as opposed to self-collection to ensure its potential to act as evidence. "In order to overcome evidentiary hearsay and authentication concerns, social media data collection often requires outside (neutral) experts to extract, produce, review and testify to the process used."

McLinden, Sean. "'Web 2.0' as Evidence." ***Forensic Focus: Computer Forensic News, Information and Community*** **(August, 2010)**
http://www.forensicfocus.com/index.php?name=Forums&file=viewtopic&t=6335

This article discusses e-discovery of social media content once a certain amount of time has elapsed. As the author points out, most of the attention paid to social media as evidence relates to cases where the "cause and effect are near immediate." McLinden outlines a case in which the plaintiff sought electronically stored information (ESI) that were internal company blogs and wikis that were "used by the defendant's developers to discuss new product ideas, as well as the design and coding of the alleged offending application." The issue revolves around the duty to preserve. None of the sites were required to be managed in accordance with standards for business compliance as they were informal internal sites for collaboration. The author states that it is arguable whether or not there was a duty to preserve as the developers would not have been aware that there was any intellectual property issues tied to the information on these sites. The issues: "What constituted 'readily accessible' in sites in which the content is frequently changing and for which point-in-time recovery solutions do not exist?" There were issues in how to effectively produce content that was viable from dynamic databases that was sufficient to the request and didn't cause undue hardship for the defendant. Questions of "which" view was to be produced led to a more philosophical question according to the author: "A more philosophical question is the very nature of social networking sites in which content is managed by multiple authors and frequently organized according to topic or thread. In this setting, is the native format

of a blog or wiki the format in which it appears to the user of the site when they view the page or the format in which the original parts were prepared (which may no longer be available)?

Savvas, Antony. "Social Media Compliance Rules Lacking, Gartner Says." ***CSO Security and Risk*** **(March, 2011) http://www.csoonline.com/article/677621/social-media-compliance-rules-lacking-gartner-says**

This article reports on research by Gartner on compliance issues around e-discovery and social media use in organizations. According to Gartner, many organizations do not have comprehensive compliance policies, yet there is no difference between social media and electronic or paper artefacts when it comes to discovery.

"The phrase to remember is 'if it exists, it is discoverable.'" Gartner reports that collaborative and social media content is coming up frequently in e-discovery requests and predicts that by 2013, fifty percent of companies will have been asked to produce material from social media websites for e-discovery, yet lack the policies to ensure this is possible. Because the legal landscape around social media is currently a "patchwork" due to overlapping, conflicting and contradictory laws and regulations and procedural rules differ in national and international legislative and regulatory environments, comprehensive governance and policies around social media records is essential.

Warner, Janice and Soon Ae Chun. "Privacy Protection in Government Mashups." ***Information Polity*** **14 (2009): 75-90.**

"Mashups are new content created by blending or mashing of data (i.e. application results, video, data, and pictures) from two or more sources using Web services available on the Internet" (76). The data sets that are drawn upon to create mashups come from diverse data sources, including governments and private organizations. Mashups and the programs developed to create them, facilitate dynamic content composition across organizational or national boundaries, combining of disparate data sources, and creative presentation (77). This article discusses mashups in relation to the privacy challenges they present and proposes a technological/policy model to address these issues.

As governments continue to release data online through open government initiatives (information that is collected via the Web or by other means), ever increasing combinations of a variety of datasets will occur through mashups, creating potential for possible privacy breaches.

Data that flows between mashup technologies and creators must be controlled to adhere to privacy requirements and legislation (80). Current legislation does not adequately (if at all) address privacy issues for data collected outside of an individual's direct interaction with websites – an issue the author's argue must be addressed in policy and legislation and protected by means of technology.

Williams, Meredith. "eDiscovery & Social Media." ***The National Law Review*** **(November, 2010) http://www.natlawreview.com/article/ediscovery-social-media**

Written by an attorney who works in knowledge management, this article effectively explains the e-discovery challenges social media content presents. Social media content that may be sought for in discovery is often scattered across multiple sites and connected to many people and custodians and often housed outside of an organization's firewall. Despite these challenges, organizations have a duty to preserve social media data that may be relevant in potential litigation. Often this data must be gained through consent or third-party authorization -- depending on the location of the information. According to the author, the courts are only beginning to outline the duty of preservation and the right to discovery of social media sites. In order to be prepared, Williams advises developing internal policies and training programs and investigating software designed to preserve social media. The main issue with admissibility, according to Williams, is authenticity, making courts cautious when admitting social media content. In some cases, judges have "friended" parties in order to authenticate postings.

The 2006 Federal Rules of Civil Procedure changed the discovery rules to include "electronically stored information" (ESI) and according to Williams, social media data fits the definition of ESI. The article uses recent case law to highlight issues with social media content, including whether it is considered private, whether it is discoverable, and whether it is admissible as evidence. In 2001 in *Guest v. Leis* the court held there is a lack of expectation of privacy regarding public postings on social media sites, citing a weakened expectation of privacy. In 2010 in *EEOC v. Simply Storage Mgmt* the court compelled production of relevant content from social media sites – "require[ing] the application of basic discovery principles in a novel context." *Crispin v. Audigier* (May 26, 2010) involved the Stored Communication Act, ruling (held on appeal) that the SCA protects Facebook and MySpace messages that aren't publicly available. Alternately, in another ruling that same year, *Romano v. Steelcase Inc.* the court allowed discovery of an entire social media site with all current and deleted postings, citing

Facebook policy that users should have "no expectation of privacy." These rulings highlight the lack of consensus currently on how to deal with social media content as evidence in law.

Web 2.0: Government and Organizational Use

Ajjan, Haya and Richard Hartshorne. "Investigating Faculty Decision to Adopt Web 2.0 Technologies: Theory and Empirical Tests." *Internet and Higher Education* 11 (2008): 71-80.

This article discusses a study into faculty use of Web 2.0 technologies to supplement in-class learning. While student uptake of Web 2.0 technologies is rapid and increasing, many university faculty are slower to adopt these technologies. The study employed decomposed theory of planned behavior that "posits that actions are determined by a combination of people's behavioral intentions and perceived behavioral control" (73). The study found evidence that faculty feel that integrating Web 2.0 technologies into the classroom can be effective.

Akerey, Marj. *Government of Canada Web 2.0: Making a Difference – Making it Happen.* Ottawa: 2010. Available from Treasury Board of Canada Secretariat http://www.opengovernmentrecords.net/drupal/node/112

This is a slide presentation and accompanying documents discussing the state of Web 2.0 in the Government of Canada. Key stakeholders are identified – public servants and external stakeholders, as are business drivers for the uptake of Web 2.0 in the government. GCPedia and Open Government plans are briefly touched upon. Essentially, this is a planning document that identifies the questions, issues and stakeholders that predates the LAC's thought papers.

Australian Government Information Office. "Engage: Getting on with Government 2.0: Report of the Government 2.0 Taskforce," 2009

This is the final report of the task force commissioned by the Australian government to study the use of Web 2.0 collaborative tools within government and between government and citizens. The report is broad in its research agenda and recommendations. The taskforce explored the potential uses of Web 2.0 collaborative technologies in government, public sector information (PSI) use and what a government 2.0 platform would look like. Government 2.0 was defined as having three pillars –"leadership, policy and governance to achieve necessary shifts in public sector culture and practice"; "application of Web 2.0 collaborative tools and practices to the business of government"; and "open access to PSI" (1). The task force examined Web 2.0

collaborative tools and their affordances; how Australia compared internationally with the use of these tools in government; management, policy and governance issues; and how to engage the public.

Key findings in the report note that engaging in government 2.0 or Web 2.0 collaborative tools offers new types of opportunities for government openness, accountability, responsiveness and efficiency. It is not merely the technology that will affect such changes, but new approaches, which the technology affords. Leadership, policy and governance are key to a successful government 2.0 approach. Government 2.0 directly challenges established policy, practice and culture and can only be successful with "coordinated leadership, policy and culture change."

The report outlines thirteen recommendations, including addressing issues of privacy and confidentiality, accessibility, information security, copyright and access to and use of public sector information, and the requirement of retaining Commonwealth Records as defined in the *Archives Act 1983*.

Chang, A. and P. K. Kannan. "Leveraging Web 2.0 in Government," 2008. Available from IBM Center for The Business of Government. http://www.businessofgovernment.org/publications/grant_reports/details/index.asp?GID=315

The ability for record creation across space and time via various platforms and with multiple participants not only exists but also is being used in both the public and private sectors. "Both business and government organizations are recognizing the significant potential of the Web 2.0 environment in building relationships with customers, employees, and citizens, and in co-creating content and services that will benefit all players interacting in the environment" (6). The objectives of the report were to understand the collaborative web technology and its potential for government use; identify the critical issues with its adoption by government; understand how citizens perceive engaging with government via Web 2.0 service platforms; and identify how to measure engagement and effectiveness of government Web 2.0 initiatives.

The report findings indicate that governments need to engage with citizens in an online environment and that citizens are willing to engage with government agencies online. Third-party firms are increasingly acting as intermediaries between government and citizens. Government must rethink how they deliver content and services to better facilitate social media use and must find ways to embed authority in services delivered via the web in social media

environments. Citizens are concerned about equal access, and while they trust government with their personal information and privacy, they had less faith in government than private business in effective service delivery.

Recommendations stemming from the report include developing a government wide approach so there is awareness of a bigger picture and being strategic in delivery so it is tied to the government's mission. Additionally, information provided via the web should be component based so it can be used at a more granular level in mashups. Government agencies also need to develop policies and strategies to ensure the authenticity of government information and support the handling of information collected by and contained in social media environments.

Chapman, Ann and Rosemary Russell. "Collecting Evidence in a Web 2.0 Context." *Ariadne* 60 (July, 2009).

Chapman, Ann and Rosemary Russell. "Shared Infrastructure Services Landscape Study: A survey of the use of Web 2.0 tools and services in the UK HE sector," December, 2009. Available from JISC SIS

Chapman and Russell investigated the use of Web 2.0 technologies in higher education (HE) in the U.K. The study was limited to tools and services that were developed outside of the HE field in order to identify who was using Web 2.0 tools and services, and why. The article explains the researchers' approach to the study and outlines their mixed methods approach and the instruments they utilized including a Web survey, blog, case study analysis, and desktop research examining the blogs, podcasts and other Web 2.0 features of library catalogues. The findings indicate consistent and varied use of Web 2.0 technologies in the UK HE sector by a variety of users (including students, researchers, educators, etc.).

Lux Wigand, Dianne F. "Twitter Takes Wing in Government: Diffusion, Roles and Management." *Proceedings of the 11th Annual International Conference on Digital Government Research,* 2010.

This paper reports on a study of Twitter use in the U.S. government and how it is being both adopted and adapted for a number of functions to collaborate and disseminate information internally and to communicate, collaborate and disseminate information externally with citizens. The study seeks to answer why Twitter is being adopted by the public sector, the roles it plays within public administration, how it can be managed, and what frameworks can be used to assess the benefits and challenges.

The study utilized four theories to illustrate Twitter use: Diffusion of Innovations Social Influence, Social Presence, and Collective Intelligence theories. The study found that one of the primary reasons for the adoption of Twitter by government is its proliferation of use by citizens, business and non-profit organizations (68). The four major roles that Twitter plays in government, as reported by the study, include: extending the reach of communication; updating, broadcasting and sharing information through networks; building relationship; and collaborating with stakeholders (68).

Approaches for leveraging effective social media use in government include matching the agency's mission and outcomes with the technology, understanding the direction of communication and with whom information is shared, and matching technology type with use (69). The study also identified challenges which include legal issues around using a third-party provider or non-government site, the need to review records compliance laws prior to use, preservation of social media content, and the management of another communication channel (70).

Melville, David et al. "Higher Education in a Web 2.0 World," March, 2009. Available from Committee of Inquiry into the Changing Learner Experience
http://www.jisc.ac.uk/media/documents/publications/heweb20rptv1.pdf

This report investigates the strategic and policy implications of Web 2.0 technology use for higher education (HE) in the UK and internationally. The study reviewed literature, examined programs that utilize and study Web 2.0 technologies, and heard oral evidence from educators and researchers in UK HE. Web technologies are "being deployed across a broad spectrum of university activities," however, deployment is not systematic, but is driven by individuals' professional interest and enthusiasm from the bottom up. Learners' use of Web 2.0 has led to a greater tendency to collaborate and share information and a more "casual approach" to copyright and related to legal issues.

Minocha, Shailey. "A Study on the Effective Use of Social Software by Further and Higher Education in the UK to Support Student Learning and Engagement," January, 2009. Available from JISC
http://www.jisc.ac.uk/media/documents/projects/effective-use-of-social- software-in-education-finalreport.pdf

Minocha conducted case study research between August 2008 and January 2009 for a Joint Information Systems Committee (JISC) funded study. She investigated 26 initiatives in UK higher education (UK HE) that were using social software to enhance student learning and engagement. The case studies identified widespread and consistent use of a variety of Web 2.0 technologies (wikis, social networking, social bookmarking, blogs, etc.). The report highlights the benefits and challenges to institutions, educators and students – particularly highlighting the lack of any formal policies regarding the use of Web 2.0 tools and the products generated from their use, access, authorship, and privacy, all of which require further investigation.

Morrison, S. 2009 "A second chance for Second Life" *The Wall Street Journal*. August, 19.

This article provides a brief history of Second Life and Linden Research Inc.'s (the company who created Second Life) attempts to shift its use into the business world. Linden is targeting business in attempts to get them to use Second Life as a business tool for communication, collaboration and dissemination. Second Life is being marketed as a business tool for hosting training sessions, virtual conferences, trade shows and corporate events. While popular with companies such as IBM, the author notes Second Life falls short in areas such as networking. Second Life plans to continue to add features that will enhance its meeting capabilities for business.

Osimo, David. "Web 2.0 in Government: Why and How?" 2008. Available from JRC Scientific and Technical Reports Luxembourg: Office for Official Publications of the European Communities http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=1565

The goal of this report is to assess whether the adoption of Web 2.0 technologies by both individuals and industry is relevant to government-related activities and its impact on European Union (EU) policy development. The author conducted a Web survey of existing initiatives, "desk research" to measure the impact on the private sector, and case studies. Osimo's research found that the Web 2.0 was currently being applied in the government context, is characterized by an "active user role," and is used for both "soft issues" as well as for "core internal tasks" involved in information sharing and decision and policy making. This report identifies the current and potential use of Web 2.0 technologies with regard to potential record creation and highlights common mistakes and risks. It also concludes government should continue to use and understand Web 2.0 technologies to facilitate better administration and risk management.

"UK government moves to put data on the Web," *W3C News Archive* (June, 2009). http://www.w3.org/News/2009

In this posting, the Office of the British Prime Minister announces that Tim Berners-Lee will "help drive opening of access to Government data on the web." The aim is to create a "Web of Linked Open Data built on W3C's open Semantic Web standards."

USGAO. Information Management: Challenges in Federal Agencies' Use of Web 2.0 Technologies, July, 2010. [Testimony Before the Subcommittee on Information Policy, Census, and National Archives, Committee on Oversight and Government Reform, House of Representatives]

This report identifies that 22 of the 24 major U.S. federal agencies have a presence on Facebook Twitter and YouTube. The report highlights two major challenges to the agencies' use of social media – privacy and security, and records management and freedom of information. The U.S. government faces challenges in applying the Privacy Act of 1974 to information exchanged via social networking sites and how to determine the appropriate limits on agencies collecting personal information via social media technologies. Agencies face challenges in assessing whether information generated with Web 2.0 technologies constitute federal records and if so, how to effectively capture and preserve them.

Wyld, D.C. "Government in 3D: How Public Leaders Can Draw on Virtual Worlds," 2008. Available from IBM Center for The Business of Government. http://www.businessofgovernment.org/publications/grant_reports/details/index.asp?GID=322

Government agencies are beginning to explore the use of virtual worlds such as Second Life for a variety of purposes. Agencies (ranging from the National Oceanic and Atmospheric Administration to the Center for Disease Control and Prevention to Congress) are using these worlds in a variety of ways, including citizen engagement, internal employee collaboration, to provide training and simulations, recruitment, and increasing economic and tourism development. Multiple issues arise in the government use of virtual worlds, including identity concerns, issues of security of information, accessibility, interoperability, availability of technologies and virtual world policies.

Wyld, D.C. "The Blogging Revolution: Government in the Age of Web 2.0," 2007. Available from IBM Center for The Business of Government http://www.businessofgovernment.org/report/blogging-revolution- government-age-web-20

This report discusses the rapid uptake and popularity of blogging and its growing relevance to business and government; it looks at the rise of blogging in the public sector; the social phenomenon of blogging; and directions for future research in public sector blogging. The phenomenon of blogging is explored in the broader context of collaborative web developments including a case study of the U.S. Strategic Command that has used blogging to influence the culture of information flow within the organization. Issues such as time management, security and liability are all touched on. The report predicts organizational best practices around blogging will emerge as the medium continues to grow in popularity as a communication and dissemination tool.