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**Introduction**

This literature review will examine existing literature on the topic of trusted online access to digital public records, specifically, those that are not in archival custody and are distributed across various creating agencies of government. The three main questions the literature review aims to address are:

- Does government\(^1\) have an obligation to make digital public documents that are kept in the creating agency’s custody accessible to the public?
- How can government make digital public documents that are kept in the creating agency’s custody available in a trustworthy and user friendly manner?
- How can government deal with privacy and ethical concerns that come with making public records available online?

Working off of these questions, the literature review aims to provide a survey of literature with the intention of informing researchers whether or not governments have an obligation to make digital records that are not in archival custody accessible to the public, how governments can make these records accessible and the potential issues/risks of making online government documents available to the public. It is important to note that the literature consulted in this review addresses many different geographies and that legislation, policies and attitudes will vary.

**Other sources of information:**

This literature review focuses mainly on how government can provide access to digital public records that have not been transferred to archival custody. There are other InterPARES Trust projects that have covered similar issues and whose research should be consulted in conjunction with this project. Relevant projects and their available documents include:

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\(^1\) In this specific context, the term “government” is used as a comprehensive term for all levels of government.
NA06 – Retention and Disposition in a Cloud Environment

- Literature review v1
- Literature review v2
- Executive summary of user survey
- Functional requirements

NA08 – The Implications of Open Government, Open Data, and Big Data on the Management of Digital Records in an Online Environment

- Summary report

EU02 – Open Government Data

- Literature review

Additionally, CSIRO/Data 61 has produced a report (publication forthcoming) for the Queensland State Archives in which similar questions regarding access to records held in government agencies are addressed.

**Literature search:**

The literature review surveys published works related to the scope of the project AA05: Trusted online access to distributed holdings of digital public records. The search strategy included searches of the following databases:

- Google and Google Scholar
- University of British Columbia Library catalogue
- Library and Information Science Abstracts (LISA)
- MLA International Bibliography

The following search terms were used in each:

- Open government
The literature surveyed has been broken down into five main areas of importance followed by investigative case studies. The following areas are not listed in any particular order:

- Government responsibilities and obligations to citizens
- Ethical ramifications
- Execution and mechanics of making digital records available
- Risks and challenges
- The role of information professionals - libraries, archives and records management
- Investigative case studies

**Government responsibilities and obligations to citizens**

Public records are the documents produced by a government during the course of business and are available to society to view.² These can range from budgetary or legal matters to real estate transactions. Essentially, any contact with government generates a public record.

Government, at all levels, has an obligation to citizens and must ensure that public records are accessible, regardless of where they are located. As government becomes increasingly more reliant on technology and more and more documents exist in digital form, providing access can become complicated. In their article “Internet Information-seeking and its Relation to Support for Access to Government Records,” David Cuillier and Suzanne Piotrowski explain that public access to government records is “essential for democratic self-governance, and attitudes toward that right can facilitate or hinder public policy regarding transparency.”

Citizens should be allowed access to public records such as sex-offender locations, road plans, budget information and restaurant inspections. By providing access to these types of records, government can increase citizens’ knowledge and safety.

According to former British Columbia Privacy Commissioner Elizabeth Denham, this type of effective record keeping and the proper maintenance of government records is an important public good and is essential to good governance. Government has a great deal of responsibility to maintain and provide access to public records in the interest of ensuring institutional memory, making sure that appropriate information is available to decision-makers, retaining evidence and accountability and ensuring that legal requirements are met.

Denham draws attention to the fact that the majority of government documents are now produced in electronic form and that these cannot be dealt with in the same way as paper records. Ideally, an important historical record can be created and organized so that it can be easily

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accessed by government officials, historians, journalists and citizens. It is government’s responsibility to ensure that its electronic records do not grow obsolete. Denham insists that a trusted digital repository should address long-term data preservation and provide secure access to digital records.

Email is a particularly challenging issue in the context of access to digital public records. In the article “The Impact of Information Culture on Information/Records Management: a Case Study of a Municipality in Belgium,” Svard notes that failure to accept email as an official record is problematic as many facets of government work exist in an entirely digital environment. Alistair Tough also discusses the challenges of email and writes that important decisions that the public should have access to are often made in emails. There is cause for concern if emails are not being properly preserved and allowed access to.

**Ethical ramifications**

The general consensus among the literature consulted is that governments do indeed have an obligation to provide the public access to digital records that are not in direct archival custody. One of the major themes in the literature on this topic is the ethics in providing such access. Barata et al. agree that open government is essential to good government and write that in an environment where information is withheld, there will be inevitable tensions and mistrust.

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The article advocates for the involvement of citizens in open government, but for that to work, citizens must be well informed and have access to the facts about government activities. A free flow of information about what the government is doing on behalf of its citizens and how taxes collected from citizens are spent is essential for accountable government. This type of access to information is a basic human right as stated in the Universal Declaration of Human Rights.\(^8\)

Barata et al. note that some have argued that since government acts on citizens’ behalf and is funded from taxes paid by citizens, the records created by government agencies actually belong to the people. Thus, the presumption ought to be that government should make its records available to the public unless they can show good cause why they should be withheld (for example, matters of national security).

While this might seem reasonable in certain contexts, the ethics of access differ around the world. Barata et al. draw attention to the fact that asking for information in African societies, especially where there is a large social distance between the person seeking information and the government official, can sometimes be construed as impertinence.

In a survey facilitated by Luis Luna-Reyes and Soon Ae Chunb, participants expressed that if government data was to be open and searchable, it is ethical to conduct programs to educate the public and create awareness about public data.\(^9\) Luna-Reyes and Chunb note that new technologies and new opportunities for accessing public records constitute new opportunities to rethink traditional trade-offs between conflicting values such as privacy and transparency.


Execution and mechanics of making digital records available

The major question addressed by literature in this area is how governments can actually make distributed digital public records available to citizens. Many researchers grapple with the huge amount of data that needs to be controlled and how to find a stable enough system that can preserve record integrity and privacy while also providing access to millions of people.

The literature makes it apparent that citizens need access to digital records and that the current system for doing so is ineffective and inadequate. According to Denham, government simply cannot stash away electronic records indefinitely on ministry servers without any appraisal for archival value. Much like how paper records require evaluation and preservation, electronic records either need to be destroyed or archived depending on their value to government and to citizens.\(^\text{10}\) Currently, the British Columbia government’s policy for transferring electronic records to the BC Archives is to print the records and transfer the paper records to microfilm. Denham notes that this is method is impractical and expensive.

How then, can government make digital records public? This question appears to still be in its infancy. Though many writers have proposed suggestions for solutions to this question, there does not seem to be any universally agreed upon approach for online access to government records residing outside of archival custody and even fewer resources outlining a practical, working system.

One suggestion from Maria Jose Vicentini Jorente is the idea of digital vaults as discussed in the article "Archives Information Publishing New Design in Post-Custodial Regime: The National Archives Experience Digital Vaults."\(^\text{11}\) While vaults may initially be associated

\(^{10}\) Denham, *A Failure to Archive*…, 4.

with keeping people out and away from the materials inside, the Foundation for the National Archives in partnership US National Archives aims to change this with the Digital Vaults Experience. The Experience is a database that will provide a large number of visitors with access to valuable archival documents. The database provides access to about 1200 chosen documents which are linked by “design software, based on a digital system of relationships between keywords, translated into a convergence of visual experiences presentations.”

A government system would certainly need to be able to accommodate more records, but The Digital Vaults Experience offers a good foundation.

Barata et al. also discuss a practical reality to the issue of providing access to online government records. They describe how the International Records Management Trust, Rights and Records Institute in collaboration with Transparency International developed the Information for Accountability Workshops. This project aimed to encourage improved public access to government information in order to develop a more informed civil society. The Workshops were designed to “encourage the public sector to educate citizens about what is publicly available and what is not and why not” in order to create an environment where citizens feel comfortable requesting information.

While not everyone had an answer to the question of how to provide public access to digital government documents still held in creating agencies’ custody, there were many suggestions for what would need to be included in an ideal system. According to Nathan Mnjama and Justus Wamukoya in the article "E-Government and Records Management: An Assessment Tool for e-Records Readiness in Government," a system that provides access to government records must have the following characteristics:

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12 Ibid., 150.
13 Barata et al., “Information for Accountability Workshops…,” 67.
- Comprehensiveness: the system should be able to show who, what, where, when, why and who was involved in the transaction that resulted in the record being created.

- Authenticity: a reflection of the activities and transactions that have been carried out concerning the record. (ie. an audit trail)

- Fixity: E-records should be tamper proof. Nobody should be able to alter the record.  

Another crucial point that Mnjama and Wamukoya make is that you cannot implement an electronic records system without first having a solid paper records system in place. It is important to ensure that there is a good record keeping foundation before proceeding to automate. While these are excellent points, this article does not discuss how to create access to digital records.

Similar to the above, Byrne does not particularly address issues of access, but presents several options for how to protect citizen privacy when making records accessible. He suggests some options for partially sealed records or using verification on websites to allow access (ex. WebCivil and WebCrim databases are off limits to anyone mining or selling. In addition to agreeing with terms and conditions, users must pass a further security barrier to gain access by typing characters.) Byrne’s final solution to prevent the misappropriation of data is by forcing users to pay for searches. This brings up all sorts of ethical issues, namely, that it is against the greater public good and citizens’ rights to information.

Cuiller and Piotowski also have suggestions for how governments can deal with providing access to online public records. They note that, in order for this to be a successful project, government must show the public what they can gain from the online information.

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available to them. Public information such as road plans, neighborhood crime information, airport noise maps, emergency response time maps and construction proposals could all be very useful to citizens. They also stress the need for an increase in support and funding for e-government and, much like the Workshops discussed by Barata et al., Cuillier urges government to train and educate the public on how to use the tools available to them. Reducing the knowledge gap is a key element in empowering citizens and connecting them with the information available to them.

Government can also use social media to engage with citizens about open data. InterPARES Trust researcher Dr. Patricia C. Franks has conducted extensive research in this area and explains that multiple levels of government, from police forces to elected officials, can use social media to provide data to the public and actively engage with citizens.¹⁵ Franks notes that all governments, both repressive and progressive, “must redefine their commitments between citizens and governments” and that this commitment should involve social media participation and the open data it produces.¹⁶ Not only does the use of social media and other forms of e-government result in better communication with the public, it also fosters better communication within government internal departments by “challenging ‘traditional bureaucratic models’ whereby power flows vertically and communications between departments is prone to compartmentalization.”¹⁷ Franks’ research is careful to cite that open government does not

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¹⁵ Patricia C. Franks, "Transforming Interactions Between Government and Communities Through Social Media," (PowerPoint presentation CAIS 2014, Memories, Identities, and Communities, Dundee, Scotland, April 24, 2014).
¹⁷ Ibid., 12.
necessarily mean complete transparency in every single action. Rather, open government means that government should “not make policy in secret or behind closed doors.”

**Risks and challenges**

There are many risks and challenges to providing access to digital public records. Beverly Hart points out that inconsistent record keeping and a lack of standardization can be a struggle when trying to put records online and notes that government records should be facilitated by a “professional, career-oriented staff.” Byrne agrees that professional staff are needed to manage government records because it requires a great deal of understanding to “find the right balance between the public’s right to know and the individual’s privacy rights.” Professionally trained staff would understand how to care for records out of archival custody and would be strong assets in creating access to records in a distributed state.

Similar to Hart and Byrne, Adrian Cunningham and Margaret Phillips acknowledge that lack of standardization and lack of professional staff are some of the biggest issues when it comes to making records available online. Much like Cuillier and Piotowski, Cunningham and Phillips also insist that lack of funding inhibits the process of making government records not in archival custody available online. Perhaps the biggest challenge this article draws attention to is that information creators, particularly government agencies and politicians, still do not recognize the importance of keeping online information accessible for the future. They note that government changes all the time and information that might embarrass a government could

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18 Ibid., 13.
easily be changed “accidentally, intentionally, even maliciously.” For example, Indiana Governor Mike Pence removed citizens’ comments from a post he made on his social media account. The backlash of this action resulted in thousands more comments from the public and serious questions regarding censorship. An online system for records remaining with their creating agency that is open and accessible to citizens may help prevent these quiet, and not so quiet, alterations to information and increase government accountability.

The other major issue that comes up in the literature is how to deal with big data. According to Nguyen et al., big data is often unorganized and lacks context. This can cause a “data rich, information poor” scenario which makes it difficult to give the public access to the information that they truly need. Many sources in this review stress that it is not enough to just make records available. Records must be available in plain language whenever possible so that citizens can understand the information available to them. To add to this, March and Dibbens hypothesize that user-friendly human-computer interfaces lead to better trust in the overall system. Citizens should not have to wade through an unmanageable amount of data available through an incomprehensible platform to access information that they have the right to view. Regardless of where and in what form public data exists, the public should be able to access it relatively easily.

22 Franks, "Transforming Interactions Between Government and Communities Through Social Media."
Privacy is a tremendous risk when it comes to open data. Krotoski\textsuperscript{25} notes that it is possible to reverse engineer and identify anonymized data, but as Byrne explains, this can often be a lengthy and expensive process. The ideal public record system would be some type of hybrid of public access and privacy acts which promote access to public information and also protect the integrity of individuals.\textsuperscript{26}

Additional risks outlined by Decman and Vintar in “A Possible Solution for Digital Preservation of E-Government: A Centralised Repository Within a Cloud Computing Framework” include security issues, dependency on network connections for access to documents, dependency on the availability and quality of services provided and bandwidth bottleneck problems.\textsuperscript{27} In response to these potential risks, Decman and Vintar make a strong point that a risk management program should be an essential part of the government IT environment.

**Role of information professionals - libraries, archives and records management**

Another common theme in the literature is what role information professionals like archivists, librarians and records managers can play in the challenge of making digital government records available to the public. InterPARES Trust project \textsuperscript{EU02} provides extensive research in this area.

Robertson and Cunningham suggest that information professionals can assist with assessing the technological options for administering web-based records and help explore storage

\textsuperscript{26} Svard, “The Impact of Information Culture…,” 6.
and preservation issues concerning online records. Cunningham and Phillips narrow this idea and specifically describe the role of the archives as a body that can help protect the rights and entitlements of the governed by providing democratic accountability and empowering citizens against maladministration. In order to do this, information professionals need to be involved early on in the records process in order to minimize complexity and costs.

The common thought among the literature is that information professionals cannot solve this problem alone and must collaborate with other departments, such as IT and the individual government agencies to find a solution. Information professionals can provide expert advice on standards, classification, indexing and retrieval of records, but each institution or agency must decide for themselves what is appropriate for its own needs.

**Investigative case studies**

Cunningham and Phillips highlight a few case studies that show governments successfully navigating the realm of digital public records. Sweden has been making digital public records available since 2002 when the government issued a decree authorizing the National Library to collect Swedish websites and allow public access to them on library premises. New Zealand has also engaged in similar practices for many years, first with the passing of the National Library of New Zealand Act in 2003 that extended legal deposit to include electronic publications and websites and in 2004 when the New Zealand Government granted the National Library $24 million to ward off “digital amnesia” and implement plans for a trusted digital repository.

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A more recent example of government taking active steps towards making digital public records available can be found in Canada. In June 2016, the Canadian Government released a draft of Canada’s New Plan on Open Government 2016-2018\(^{30}\) and sought the public’s feedback on the document. In addition to advocating for more openness and transparency in government, the document was structured into four priority areas:

a. Open by Default: Canadians can easily access government data and information in open, standardized formats. Citizens have the tools and information they need to hold government to account, which builds trust in public institutions;

b. Fiscal Transparency: Government of Canada financial and budget information is available and easy to understand, allowing Canadians to track how their tax dollars are spent and understand how government fiscal decisions are made, and enabling Parliament to review and approve government spending;

c. Innovation, Prosperity, and Sustainable Development: Government data and information can be used in innovative ways by Canadians to improve their lives, their businesses, and their country; and to create sustainable, inclusive social and economic progress worldwide; and

d. Engaging Canadians and the World: Canadians have the information they need to meaningfully interact with and participate in their democracy. They have the opportunity to make their voices heard on government policy and programs from the start. Canada demonstrates leadership by championing open government principles and initiatives around the world.

These priority areas were then broken down further into 22 commitments. This is not an extensive list, but some commitments include:

- Enhance access to information

- Streamline requests for personal information (making it easier for Canadians to access their own personal information held by the Government of Canada)

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- Expand and improve open data (increasing the quality and visibility of government data holdings)
- Provide and preserve access to information (with the help of Library and Archives Canada)
- Enhance openness of information on Government spending and procurement
- Improve public information on Canadian corporations (provide searchable information on Canadian businesses that is held in business registries at the federal, provincial and territorial level)
- Open Data Canada (an initiative working towards standardization of data between provinces, territories and municipal partners)

Similar to Canada, the United States and the United Kingdom are committed to open data initiatives. Both countries provide access to large datasets of public information in the interest of providing a growing volume of meaningful data to citizens. In the US, the web portal data.gov uses standardized metadata templates for searching and retrieving information for users ranging from individual citizens to large corporations operating at the international level. In the UK, the Office of Public Sector Information, which operates from within the National Archives, sets standards, delivers access and encourages the re-use of public sector information. Issues of data quality, accuracy and integrity are still present, but both countries rely on strong records management programs to establish trustworthy and reliable datasets.

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Conclusion

There is a great amount of literature about open data and open government, and although many have written about the unquestionable need for open information and the ethics and risks involved in the process, there is little information about how to execute such an initiative.

The literature generally points in the same direction, namely that open and transparent government, regardless of where records are in custody, is essential to public well being and good governance. The public has a right to know how they are being governed and in our current world of technology, most of the governing process takes place online. Implementation of a type of ERM system is the general agreement across the literature, though there is no consensus on a particular form or provider, only that such a system might need to be custom built. The literature does an excellent job exploring the potential risks involved in making digital public records outside of archival custody accessible and also highlights the role of information professionals in libraries, archives and records management settings. We can look to governments of Canada, the United States and the United Kingdom for positive examples, but the literature acknowledges that these systems are by no means perfect and that the process of implementing open government and providing reliable and easy access to digital public records is still ongoing. All sources included in the literature review acknowledge the seriousness of this issue and urge governments to act now and to act quickly.
Bibliography


Patricia C. Franks, "Transforming Interactions Between Government and Communities Through Social Media," (PowerPoint presentation CAIS 2014, Memories, Identities, and Communities, Dundee, Scotland, April 24, 2014).


