



Chair in e-Government

Research Report

**‘Emerging Records Management
in 21st Century New Zealand Government – Part 2’**

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1. Introduction

This report is the result of an investigation into how New Zealand public servants identify and manage electronic records created through the use of newly available Information and Communication Technologies (ICTs), also known as ‘Web 2.0’ technologies, such as wikis, text messages or video-sharing applications. It is the follow-up to a previous research project we conducted into how public servants within New Zealand public service departments identify and manage emails of significant and long-term value.

In general, whilst there is increasing public interest in rethinking existing records management concepts and existing regulatory frameworks in order to appropriately manage public records created through the use of new ICTs, we observe a lack of empirical knowledge on the actual behaviours of public servants who are dealing with new electronic public records in a wide range of public sector activities. This research project focused on the records management behaviours of New Zealand public servants using emerging electronic means, including text messages, instant messages, digital videos and wikis, as communication and information transfer tools in their relationships with the general public.

Government agencies rely on public records for public service provision, public consultation activities, to track and monitor government performance, and to maintain consistency and continuity in government. Within New Zealand, government organisations must comply with the regulatory requirements of the Public Records Act (PRA) to create and maintain records and to retain them for as long as required, regardless of the format of the records. However, traditional methods and procedures for creating, controlling and maintaining records, such as print and file, may be less effective with regard to records created by emergent, Web 2.0 technologies. Currently, however, there is little empirical evidence about how public records created using these emergent technologies are identified and managed within New Zealand government departments.

This research project focused on the following questions:

1. How do New Zealand public servants identify and manage electronic records that are of significant value and importance to their government agency, created through the use of text messaging, instant messaging, digital video technologies and wikis?
2. To what extent and in what ways are the electronic records management practices to manage records created with emergent technologies, such as text messaging, instant messaging, digital video technologies, and wikis, in line with legal and policy requirements?
3. What recommendations for effective electronic records management across New Zealand government agencies can be made?

These research questions have been explored through qualitative, case study based research. Seven case studies across the New Zealand public sector were conducted in which wikis, text messaging, instant messaging and digital video technology had been used for either internally or externally focused public sector activities. Moreover, an academic literature review on emergent, Web 2.0 technologies and their potential implications for public recordkeeping was conducted, as well as a document review of electronic records management policy guidelines from four international archival public agencies, with specific emphasis on how, from a public records management point of view, the four technologies that are the focus of this research project can be approached.

This report presents the overall findings of our research. First of all, in chapter two, we present a review of available academic literature on emergent Web 2.0 technologies, traditional concepts of effective recordkeeping, and challenges posed by using new ICTs for public recordkeeping. In chapter three, we provide an overview of the current public recordkeeping environment in the New Zealand public sector, both from a regulatory and operational point of view. Chapter four presents an exploration of electronic records management policy guidelines advised in four overseas jurisdictions with similar public management systems. An analytical frame work and the research design for this project are presented in chapter five. Descriptions of the seven case studies conducted in this project are presented in chapter six, with a cross case study analysis provided in chapter seven of this report. Finally, we present conclusions and recommendations for more effective electronic records management in chapter eight.

2. Review of Available Academic Literature

In this project we were particularly interested to empirically explore how public servants are identifying and managing public records when using emergent technologies, often addressed with the umbrella term ‘Web 2.0’. This chapter summarises the available academic literature on the phenomenon of Web 2.0 emergent technologies and (implications for) electronic records management. The first section provides an explanation on the umbrella term Web 2.0 and provides definitions of the four technologies that are the focus of this research. Although we do not consider these four technologies to fully determine and, with that, drive behaviours across the public sector, we do acknowledge that capabilities of these technologies will influence the identification and management of public records created by using these electronic means. The second section defines records, provides an overview of the concept of recordkeeping, and presents the challenges related to managing public records created by using Web 2.0 based technologies. Finally, the third section in this chapter summarises policy approaches of electronic recordkeeping in the New Zealand public sector.

2.1. Web 2.0

Web 2.0 is an umbrella term that refers to a new generation of web-enabled applications built around user-generated or user-manipulated content (2009). While somewhat difficult to define, the concept of Web 2.0 reflects a paradigm shift in the way in which the Internet is used. Originally, ‘Web 1.0’ stood for an Internet user environment in which a few authors provided the content for a wide audience of relatively passive readers; in comparison, Web 2.0 reflects an environment whereby everyday users of the Internet use it as a platform to generate, repurpose and consume shared content (van Harmelen, 2008). The Internet, as networked information environment, now provides the actual capability for members of society to observe, report, question and debate (Benkler, 2006). People can do this by commenting on blogs, through collective web-based media, such as Slashdot, and by cooperative authoring of wiki-based web sites. In many ways, Web 2.0 is an extension of Web 1.0 and reflects a change in how people use technology.

Van Harmelen (2008) identified the following seven types of Web 2.0 software applications:

- Blogs: A system that allows an author to write and publicly display time-ordered articles (called ‘posts’). Readers can add comments to posts.

- Wikis: A system that allows one or more people to build up a corpus of knowledge in a set of interlinked web pages, using a process of creating and editing pages.
- Social bookmarking: A service that provides users the ability to record (bookmark) web pages and tag those records with significant words (tags) that describe the pages being recorded.
- Media-sharing services: A service that stores user-contributed media and allows users to search for and display content.
- Social networking systems: A system that allows people to network together for various purposes. Key to social networking systems are the ability to describe oneself, and the notions of friends, ranking, and communities.
- Collaborative editing tools: A system that allows users in different locations to collaboratively edit the same document at the same time.
- Syndication and notification technologies: A feed reader can be used to centralise all the recent changes in the sources of interest, and a user can easily use the reader to view recent additions and changes.

Although Van Harmelen (2008) did not define Short Messaging Services (SMS) and Instant Messaging (IM) services as distinctive types of Web 2.0 technologies, we could consider both services to be part of services specified in his typology: for instance, SMS and IM can also be used as technical platforms through which users generate, repurpose and consume content. In addition, we observe that government organisations are becoming increasingly reliant on the use of SMS and IM for user-generated exchanges with the general public, leading to questions about implications for public records management. Consequently, for the purpose of this research, we considered SMS and IM to be within the scope of our project.

The following sections describe in more detail the four technologies that formed the focus of this investigation, including challenges for government organisations to use these technologies in public sector activities.

2.1.1. Text Messages or Short Messaging Service (SMS)

Short Messaging Service (SMS) is a communications protocol used to send and receive text messages. Text messages are generally limited to 160 characters and can be used to communicate person-to-person or from a single device to a group of members.

Within government, the use of SMS as a communication channel for public services is still in the infancy stage and evidence of its applications are limited (Sheng & Trimi, 2008; State Services Commission, 2009). However, SMS-based services have the potential to provide citizens with real-time access to government information. For example, the Parking Day text service in Iowa sends text messages to drivers reminding them to move their cars on street-cleaning days (Sheng & Trimi, 2008). SMS can also be used as a means for government to send notifications to citizens during emergencies. For example, during the Severe Acute Respiratory Syndrome (SARS) crisis, the Hong Kong government sent a text message to all mobile phones in a bid to reduce fears emanating from rumours about intended government actions to stem the disease (Sheng & Trimi, 2008).

SMS services are generally easy to use, low cost and an ‘anywhere/anytime’ communication channel for many: nowadays, in most countries around the world, mobile phone use has a high penetration (Susanto, Goodwin, & Calder, 2008). Consequently, mobile technologies offer government new opportunities for the delivery of public services, both geographically and in terms of the number of people that can be served (Sheng & Trimi, 2008).

However, there are also a number of challenges associated with the use of SMS for the provision of public services:

- Wireless network signals are vulnerable to hacking and interception. Mobile devices can be easily lost or stolen, putting any data stored in them at risk of falling into wrong hands (Sheng & Trimi, 2008).
- Members of the public need to be prepared to conduct transactions with government via their mobile phones (Lee, Tan, & Trimi, 2006).
- Mobile devices have a number of inherent limitations, including small screens and key pads, limited computation power and memory and short battery life (Sheng & Trimi, 2008).

- There are multiple platforms for mobile/wireless applications and a lack of international standards (Sheng & Trimi, 2008).

2.1.2. Instant Messages (IM)

IM is a tool that allows for computer-based one-on-one communication; unlike asynchronous technologies, such as email and fax, it enables near real-time communication for people across different locations (Zhang & Fjermestad, 2008, p. 181). While there are a number of different IM platforms, they generally share a few key attributes including:

- near-synchronous communication that can be initiated by either party in an exchange;
- some form of presence awareness, indicating whether other users are connected to the network and/or are available; and
- high-profile notifications of incoming communication, often in the form of pop-up windows or audio alerts (Garrett & Danziger, 2007).

Research findings from a 2004 study conducted by the US-based Pew Internet and American Life research organisation show that, in 2004, more than four out of ten online Americans used instant messaging; moreover, approximately 11 million American adults used IM at work (Shiu & Lenhart, 2004). In the workplace, IM is generally used to support business activities such as:

- Asking quick questions and clarifications.
- Coordinating and scheduling work tasks.
- Coordinating impromptu meetings (Zhang & Fjermestad, 2008, p. 181).

IM is very simple to use, offering benefits to organisations like improved communication and relationships amongst staff, as well as reduced email traffic (Cunningham, 2003; Lancaster, Yen, Huang, & Hung, 2007; Zhang & Fjermestad, 2008). However, there are a number of challenges around the use of IM for business purposes (Wilkins, 2007):

- IM is very informal. The messages are generally brief, casual and flow across any number of topics. They may include cryptic shorthand codes and emoticons, which can be ambiguous in meaning and intent.
- IM networks are generally closed and do not allow users to communicate directly with other IM networks.

- IM functionality is extensive and more than simply data messaging; it offers the ability to conference chat, exchange video messages, and send files. These activities may bypass filters and IT restrictions on file sizes and formats.

2.1.3. Digital Video

Videos are collations of still images presented to the viewer so fast that they give the illusion of motion. Video, in digital rather than analogue form, has become commonplace with consumer-level devices for video capture and storage. As these devices are becoming widely adopted and used, new opportunities are being opened up for distribution, storage, analysis, and access to digital video (Smeaton, 2007).

The increasing adoption of broadband combined with a push by content providers to promote online video has helped to pave the way for people to embrace online video viewing in their daily lives. According to the US-based Pew Internet and American Life research organisation 57 percent of adult internet users in the US reported watching or downloading some type of online video content and 19 percent did so on a typical day (Madden, 2007, pp. 1-2).

Furthermore, the share of online American adults who watch videos on video-sharing sites has nearly doubled since 2006 (Madden, 2009).

Within the context of New Zealand, researchers involved in the World Internet Project found that, in 2007, 34 percent of New Zealand Internet users posted pictures, photos, or videos online (Bell, et al., 2008, p. 11). Nowadays, New Zealand government agencies are using video to communicate both in an asynchronous and synchronous fashion: for instance, agencies use the internet to publish digital videos for the general public to view, or use video conferencing internally to facilitate meetings between employees in different physical locations.

In this research activity, both asynchronous and synchronous uses of video were examined. Web-based video-sharing applications, such as YouTube, provided us with an example of the use of video-based asynchronous communication in the New Zealand public sector, where participants upload and store video clips on a remote web server; people can then view, link to and embed these digital videos into their own websites (Lamb & Johnson, 2007). Video

conferencing provided us with an example of the use of video-based synchronous communication in the New Zealand public sector. Video conferencing is an interactive tool that uses video, computing and communication technologies to enable people in different locations to meet in a face-to-face like environment, transmitting audio and video simultaneously between two or more sites in both directions (Nedelko, 2007, p. 166). So far, we could not find any mentioning in available academic literature of specific challenges for government agencies to use video in public service provision.

2.1.4. Wikis

A wiki (from *WikiWiki*, meaning ‘fast’ in Hawaiian) is a web-based collaborative writing tool that enables group authorship of information. Content on wikis tend to be iterative, whereby people undo and redo each other’s work, implying that the information on a wiki is the interlinked work of many (McAfee, 2006). Technically, a wiki is a set of linked HTML pages, created through the incremental development by a group of collaborating users.

Almost anything that can be written using a word processor can be written collaboratively in a wiki; Klobas (2006) provides some examples of uses of wikis:

- Reference works
- Websites for interest groups
- Technical documentation and standards
- Directories and lists
- Resource sharing
- News reports
- Conferences and events
- Collaboration on projects and in committees
- Surveys
- Website development
- Personal wikis

However, research findings indicate that technical and cultural barriers can reduce the likely success of using a wiki. For instance, on the basis of research on the use of Web 2.0

applications by information managers in New Zealand, Chawner (2008) identified two categories of technical barriers:

- Institutional barriers, such as firewalls or filtering software that limited access.
- Technological barriers, such as the lack of access to broadband.

Moreover, Guy (2006) suggested that most wikis require content creators to learn, at the very least, the rudiments of a particular wiki language. This makes wikis some way off being accessible to the 'not so technical'. Guy (2006), therefore, sees getting people to use a wiki as one of the most significant cultural barriers. In his view, the reason why many users still find it difficult to change content on another person's website has to do with the notion of ownership that remains deeply embedded in society. A further perceived cultural barrier to effective use of wikis is potential vandalism, whereby inappropriate or malicious posts are created. Vandalism can compromise the wiki content and reinforces the need for active management. In addition, particularly in the sphere of government, there may be concerns over privacy of personal details, copyright issues, impartiality of content and information quality (Guy, 2006).

2.2. Traditional Concepts of Recordkeeping and ICT-enabled Challenges

This section of the report first explores traditional concepts of records and effective recordkeeping. Secondly, challenges of electronic recordkeeping are described. And finally, the need for new records management concepts is discussed.

2.2.1. Traditional Concepts of Effective Recordkeeping

Since the origins of writing, written documents have provided an important role in society. Anthropologist Jack Goody, in his book *"The Logic of Writing and the Organization of Society"*, states that from the beginning the "written documents served as evidence and guarantee of the legitimacy of a transaction" (Goody, 1986, pp. 77-78). The names of archival items, such as a map, a chart, a file, a memorandum, were all derived in the late Middle Ages from action verbs: to map, to chart, to file, to memorialise. Similarly, behind the term 'record' is the need to record; to bear evidence, to hold and be held accountable, to create and maintain memory (Cook, 1994, p. 302).

The concept of records and archives as evidence of activity goes back to the earliest days of archival theory and can be found in the works of Dutch, British, Italian and American authors (Muller, Feith and Fruin, 1898; Jenkinson, 1922; Casanova, 1928; Schellenberg, 1956; referenced in Shepherd & Yeo, 2003, p. 2). These concepts of providing evidence and creating and maintaining memory are evident in current international definitions of records; the International Organization of Standardization defines ‘records’ in the Records Management Standard, ISO 15489 (2001), as *information created, received and maintained as evidence and information by an organisation or person, in pursuance of legal obligations or in the transaction of business.*

‘Records management’ is the field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records (International Organization of Standardization, 2001). ‘Effective management of records’ is seen as fundamental to a well-functioning organisation, because it supports business activities and provides a basis for efficient service delivery (International Council on Archives and Australasian Digital Records Initiative, 2008, p. 5). Records provide government agencies with the necessary support to ensure the continuing conduct of business, to comply with the regulatory environment and to provide organisational accountability (International Organization of Standardization, 2001). In addition, records provide evidence for the public to confirm or claim their public rights and entitlements and provide individuals with evidence to justify government decisions (International Council on Archives and Australasian Digital Records Initiative, 2008, p. 5).

According to established views on effective records management, records must correctly reflect what was communicated, decided or what action took place. As such it is important that records possess the elements of content, context and structure (Cox, 1998, p. 38; McLeod & Hare, 2006; Shepherd & Yeo, 2003):

- Content is made up of the information or data contained in the item reflecting the facts about the activity.
- Context reflects the relationship of the item to the creator(s), the function or business purpose for which they were created and of which they provide evidence, and any other records.

- Structure relates to the relationship between the items' constituent parts, including their medium (for example letter, and within a letter the relationship between the details of the addressee, the date, the body of the text and the signature).

According to currently dominant views on effective recordkeeping, content without corresponding structure and context cannot be trustworthy or reliable. In addition, the structure of the record forms the link between content and context; structure organises the content in such a way as to denote context, and thus contributes to how users understand the record (Shepherd & Yeo, 2003, p. 11).

As well as comprising content, context and structure, in order to fulfil their role as evidence, principles of authenticity, integrity, useability and reliability, protected for as long as required, support current views on effective management of records (International Organization of Standardization, 2001). The authenticity and integrity of records over time provides users with some confidence that records are genuine and trustworthy and that no illicit alterations have been made; records that are useable are accessible to authorised users and provide sufficient evidence of the context of their creation to support users' understanding of their significance; and reliable records ensure users of the accuracy of their content (Shepherd & Yeo, 2003).

2.2.2. Challenges of Electronic Records Management

Electronic records are records that are created or captured and retained in electronic form. They can exist in many different formats and are stored on a variety of computer-readable media; while some electronic records resemble traditional paper documents, ICT innovations have also led to the introduction of new document formats (Hedstrom, 2000). According to our current understanding of effective records management, regardless of the format of the item, it is the content that defines whether the information provides evidence in pursuance of legal obligations or in the transaction of business. Not all information are records however; for example, blank forms are generally not captured as records of transactions as they do not participate in a business activity; once they are completed they may then form a record of a business activity (Shepherd & Yeo, 2003).

As organisations introduce new ICTs for undertaking business activities, including the use of web-based technologies for process automation and improved integration between business systems, traditional procedures for controlling records, such as print and file, may be less effective (International Council on Archives and Australasian Digital Records Initiative, 2008, p. 8). Furthermore, the application of existing records management principles to electronic public records presents a series of potential challenges. These challenges include issues related to the accumulation of electronic information with limited appraisal, possibilities of human and technical failures (e.g. accidental deletion, back up failures), the ease of altering electronic records without leaving a trace, and the storage of electronic information without metadata (Hedstrom, 2000; Sanders, 1999). Further challenges exist with regard to long-term digital storage and technological obsolescence (Meijer, 2003), and attempting to manage public records that only exist or are fully functional in an electronic environment i.e. without a paper equivalent.

In this environment where the amount of electronic information is increasing exponentially, current records management practice is heavily dependent on active participation by the record creator, e.g. the application of additional metadata to records, and manual intervention of the records management team, e.g. the maintenance of classification schemes and appraisal and retention policies (Bailey, 2009, p. 94). Furthermore, workers are increasingly bringing information management expectations from their personal lives into the workplace, for example employees expect the same kind of instant access to corporate information as their experience when using the Google search engine (Harries, 2009, p. 20).

In addition to these challenges, the four technologies at the centre of this investigation have specific recordkeeping difficulties associated with them.

SMS

It can be very difficult to separate record SMS traffic from non-record traffic (Wilkins, 2007). Moreover, capturing SMS messages in the organisation's recordkeeping system, either electronically or physically, can cause difficulties (e.g. printing an SMS).

IM

In many respects, IM is an electronic equivalent of a phone call; allowing for continuous, free flowing, simultaneous communications. A key difference between a phone call and IM is that phone calls are generally not recorded or are only summarised, while an IM client that is set to archive traffic, will archive all of it, not distinguishing between records and non-records (P. Cunningham, 2003; Wilkins, 2007).

Digital Video

As a communication channel, video offers a high level of communication richness. However, in comparison to less-rich forms of communication, such as bulletins and memos, video conferencing offers limited recordkeeping abilities, is spontaneous and the dissemination of data is difficult (Nedelko, 2007, pp. 165-166).

Wikis

The use of wikis by government poses several issues in the area of information and records management. For instance, content on wikis can change rapidly and while many wikis include audit trail functionality, it can be difficult to classify and appraise content and to apply retention and disposal policies (Dearstyne, 2007).

2.2.3. The Need for New Records Management Concepts

Virtually all of the processes and systems that records managers use to manage electronic records are only slight variations on those originally designed for a paper-based world (Bailey, 2009, p. 93). Mirroring the working methods of thirty years go, many records management systems and processes are based around paper documents that were moved around by people, either by hand or via the postal system (Knowledge Council, 2008). The introduction and use of new ICTs in public policy and management causes pressures on government to move beyond the paper-based model of working and, with that, fundamental changes that records managers need to take into account, both practically and theoretically (Harries, 2009). On a practical solutions level, Harries (2009) suggested that the perception of records management will need to move from being a back office or end-of-process activity, to a process that is central to the delivery of outcomes. This change in perception would need to be supported by a shift towards a more interventionist role of records managers: a role in

which records managers for instance would encourage knowledge sharing, create new knowledge through facilitating connections, create pro-active feedback mechanisms from the records knowledge base, and analyse records management implications for strategy development and risk management (Harries, 2009).

Some authors perceive opportunities for records managers to learn from the IT industry in order to face the challenges presented by the sheer volume of information that must be managed in the future (e.g. Bailey, 2009). One of the solution areas suggested is to automate records management processes that so far have been conducted on the basis of paper-based documents. For example, similar to Amazon's online retail website, statistical information on the number of views or edits of a webpage may be captured automatically, and this information then could be used as an important aspect of appraisal.

Further suggestions have been made about reviewing the traditional recordkeeping concept of capturing evidence: for example, rather than treating web based records as static information objects to be preserved, Cunningham (2009) suggested to use an event-oriented approach where users experience the web as a series of event-based interactions or performances. In that case, the focus would change to identifying important events for which evidence needs to be captured and retained.

3. Public Records Management in New Zealand

Whatever form or concept records management will have in the future, currently available electronic public records need to be managed in accordance with existing legislation. This section of the report provides an overview of the legislative and policy environment for public records management in New Zealand. Moreover, it describes the current recordkeeping environment across the New Zealand state sector.

3.1. The New Zealand Legislative Environment

In New Zealand, the Public Records Act 2005 (PRA) is the piece of legislation that outlines the recordkeeping obligations for public offices¹. The PRA replaced the Archives Act of 1957, reflecting the significant changes in technology, legislation, and recordkeeping practices that have occurred since 1957 (Research New Zealand, 2009, p. 8). The PRA also reflects a change towards archival legislation that focuses on the outcomes that must be achieved and the expectations that must be satisfied, with less concern on how these are achieved (Hurley, 1998).

The goals of the PRA are to:

- Ensure that full and accurate records of the affairs of central and local government are created and maintained.
- Provide for the preservation of, and public access to, records of long-term value (Archives New Zealand, 2008, p. 1).

The PRA provides Archives New Zealand with the ability to set recordkeeping standards for which public offices are held accountable.

In addition to the PRA, access to government information is governed by freedom of information legislation, namely the Official Information Act 1982 (OIA), which provides

¹ In addition to the PRA and the OIA, additional pieces of New Zealand legislation that support the need for a good standard of recordkeeping by public offices include Public Finance Act 1989, Health and Safety in Employment Act 1992, Financial Reporting Act 1993, Privacy Act 1993, Copyright Act 1994, Tax Administration Act 1994, Electronic Transactions Act 2002, and Evidence Act 2006 (Archives New Zealand, 2008).

members of the public with the right to access government information that may be held about them and about the activities of government agencies.

The passing of the OIA reversed the previous official secrets presumption, inherited from British legislation, and declared that all government information is open, unless protected. The exemptions that exist are minimal and, in most cases, relate to national security or commercially sensitive information (Cullen, 2006, p. 107).

The PRA and the OIA have a mutually supportive relationship. Without basic recordkeeping practices in place the OIA can become encumbered as:

- Information can be manipulated, deleted or lost.
- The public cannot make an informed contribution to the government process.
- Individuals cannot satisfy themselves that the information held by government about them is appropriate and correct.
- Citizens cannot prove equal or unjust treatment (Snell & Sebina, 2007, pp. 68-69).

Accordingly, the PRA is an essential component of the intentions underlying the OIA; “the power of the Official Information Act is critically dependant on the quality of the public record, including both the information itself and its accessibility” (White, 2007, pp. 47-49).

3.2. Policy and Regulation of Electronic Public Records

With the introduction of new technologies in a wide range of activities in the New Zealand public sector, there is an increasing need to know if, and if so how, information managed through these technological platforms can be considered public records; and, subsequently, how appropriate management of these electronic public records can be guaranteed. For this purpose, in New Zealand, the Create and Maintain Standard was published in 2008, and is mandatory to New Zealand public offices. This standard states that records of business decisions and transactions must be created and that recordkeeping should take place in all technological environments in which the organisation carries out its business including inwards and outwards communications, such as electronic messages, faxes, letters, and SMS (Archives New Zealand, 2008). The standard also states that records can include items

outside the recognised recordkeeping systems, e.g. in business information systems, database applications, personal folders, shared drives, web activities or instant messages (Archives New Zealand, 2008). Based on this standard we may conclude that the use of the technologies under study (i.e. SMS, IM, digital video, and wikis) by New Zealand public sector agencies can lead to the creation of public records.

Moreover, recently the New Zealand government organisation responsible for administering the PRA, Archives New Zealand, released a guideline on managing web records. The scope of this guideline includes records in any format including a web page, document or instant message where the information is provided via an internet connection and web interface (Archives New Zealand, 2009, p. 5). We interpret this definition for the purposes of this research as including wikis, instant messages, and videos published on the Internet, e.g. using video sharing applications.

The guideline highlights three approaches to selecting a system for managing web records:

- Using a web publishing system, such as a content management system (CMS), as a recordkeeping system. CMS allow the publishing of web pages or content and have the ability to capture metadata about that content or page giving the information context.
- Using an electronic recordkeeping system, such as an Electronic Document and Records Management System (EDRMS), to manage content published on the web. This may require other control mechanisms to ensure there is a record of when content is published. It may also require other methods to capture the look and feel of the website.
- Integrating a web publishing system with a records management system so web records management tasks are shared between systems. This is dependent on the functionality of both systems (Archives New Zealand, 2009, p. 9).

The guideline also provides advice on when to archive whole or parts of websites due to decommissioning; this may be appropriate for wikis, where once the purpose has been met the wiki may be decommissioned (Archives New Zealand, 2009, p. 25).

In addition to advice from archival institutions, the State Services Commission published a Guide to Online Participation, supported by a wiki, as a tool to help public servants with the design and implementation of successful online participation initiatives across the New Zealand public sector. However, little mention is made of the information and records management challenges associated with online participation.

3.3. Current Recordkeeping Environment across the Public Sector

A recently published government recordkeeping survey offers us insights about the current recordkeeping environment across New Zealand public sector departments. According to the findings of the 2009 government recordkeeping survey, the majority of public offices have some level of recordkeeping policy and/or a recordkeeping programme. Seventy one percent of all responding public offices have established policies on recordkeeping and 87 percent of all responding public offices either have or are working towards implementing a formal recordkeeping programme (Research New Zealand, 2009). A recordkeeping programme includes clear allocation of management and staff responsibility for recordkeeping, specific recordkeeping policies and procedures, and regular assessments of effectiveness (Archives New Zealand, 2007, p. 28).

The 2009 survey also identified that many agencies have issues managing their digital records. Responses to the survey indicated that although many public offices have digital recordkeeping systems, many did not have the recordkeeping framework in place to support them. For example, only 58 percent of all responding agencies had procedures in place for storing electronic documents (Research New Zealand, 2009, p. 25). Moreover, only 65 percent of all responding agencies provided staff with training in recordkeeping practices and procedures (Research New Zealand, 2009, p. 21). Seventy four percent of all responding organisations reported that they held at least some records in a format that meant they could no longer access them (Research New Zealand, 2009, p. 30).

In addition to the government recordkeeping survey, recent research into email management approaches of public service department employees found that 63 percent of respondents maintained important business emails in their personal work email account (Lips, Rapson, & Hooper, 2008). The research also found that 32 percent of respondents had not received information from their organisations on how to identify the emails they needed retain as

corporate records; in addition, 26 percent had not received information on how they were expected to retain those messages of corporate importance (Lips, et al., 2008).

4. International Policy Guidelines

Internationally, government organisations and particularly archival agencies are exploring ways and approaches to appropriately manage records created by emerging technologies.

In order to analyse potential approaches for managing electronic records within the New Zealand context, we reviewed policies, guidelines and recordkeeping advice issued by archival agencies in countries with comparable public management systems to New Zealand.

We analysed publications available on the Internet from the following archival agencies:

- In Australia: National Archives of Australia and archival agencies at the State level
- In Canada: Library and Archives Canada and archival agencies at the State level
- In the United Kingdom: The National Archives
- In the United States: National Archives and Records Administration

In reviewing publications we placed specific focus on advice provided in relation to text messages, instant messages, digital videos, and wikis.

4.1. Australia

The recordkeeping practices of Australian public authorities are governed by archival legislation at both federal and state levels. At the federal level, the National Archives of Australia is responsible for:

- authorising the retention and destruction of Commonwealth records;
- developing records management policies and standards for the Commonwealth;
- providing records management training, advice and guidance; and
- storing and protecting the ‘national archives’ of the country (National Archives of Australia, 2007b, p. 3).

4.1.1. Electronic Records Management Guidelines & Advice

Analysis of the recordkeeping standards, guidelines, and advice available on the websites of the nine federal and state archival agencies indicates that some agencies provide substantially more detailed information than others on managing electronic public records. A number of

agencies recently published information on managing emergent technologies, with particular focus on records created using Web 2.0 technologies.

The Australian archival agencies consistently stated that records could be created and or captured in an electronic or digital format; and that it is the content of the item that is important, rather than the format. However, we found that the information provided by the Australian archival agencies differed on how to manage records created using these emergent technologies. Some agencies provided both procedural and technical advice on the issue; others focused on only one form of advice or provided limited and generic guidelines (please see Appendix A: Summary of Advice from Australian Archival Agencies). The following advice was provided for each of the technologies under study.

4.1.2. Text messages (SMS)

National Archives of Australia recommends that messages received on mobile or handheld devices that support the business of the agency, are records. These messages are subject to the same requirements as email messages received on desktop computers (National Archives of Australia, 2007a).

Queensland State Archives and Public Record Office Victoria suggest that in lieu of a technical method to capture SMS or IM data, agencies might instruct staff to create file notes of conversations (Public Record Office Victoria, 2006; Queensland State Archives, 2006a).

4.1.3. Instant messages (IM)

Advice on managing IM from the Archives Office of Tasmania (2009) and State Records Authority of New South Wales (2005) is limited procedural advice to create file notes of relevant IM conversations. This would be an inefficient solution if staff members within a public office use the technology extensively, as writing file notes requires a high level of human intervention. The Public Record Office of Victoria (2006, p. 20) reiterates this by highlighting that the more onerous the tasks required of users, the less likely they are to create records.

Public Record Office Victoria (2006), Queensland State Archives (2006a) and National Archives of Australia (2007a) provide technical advice to agencies on how to manage IM, either by incorporating electronic files of IM into the recordkeeping systems in place at the agency, or using software that can create logs of IM conversations.

4.1.4. Digital Videos

The Archives Office of Tasmania (2009) recommends that file notes of video conferences are made and call history logs are retained in the agency’s recordkeeping system. The State Records Authority of New South Wales (2007) advises recordkeeping systems to be capable of managing records in any form including video clips.

4.1.5. Wikis

The State Records Authority of New South Wales (2009) recently published a comprehensive guideline specifically focused on records management and Web 2.0, including the management of wiki content as public records. The guideline reiterates that many of the uses of Web 2.0 applications may result in records (State Records Authority of New South Wales, 2009, p. 7) . The guideline highlights some specific problems associated with Web 2.0 applications and offers the following corresponding advice:

Table 1: Records management and Web 2.0 - Problems and Advice (after State Records Authority of New South Wales, 2009, pp. 9-10)

Problem and Description	Advice
Using third party sites or software and copyright or intellectual property rights.	Encourage users to read the terms and conditions of use of all third party sites and software. It may be necessary to update policies and procedures to reflect issues of copyright and intellectual property when using third party sites.
Who owns the content when the system has been used by people outside the organisation or the system is hosted by another organisation?	Be sure to have all policies and procedures related to the use of Web 2.0 tools updated to reflect that the use of such tools for work implies ownership by the organisation where appropriate.
Web 2.0 is increasingly used for professional and personal purposes and the line between work and the personal can blur with a single application	There is no business or recordkeeping reason to save social interactions from Web 2.0 applications used within organisations. Be sure that staff understand the purpose of each application and use them responsibly.

combining the two.	
Using Web 2.0 tools means that many sites and systems may change rapidly, many times a day.	Ensure an analysis of the purpose of the application has been completed with set times for capture. For the more high risk records, it may be necessary to have all changes recorded into an EDRMS.
Web 2.0 encourages users to control and contribute content as well as reuse it.	Each of the contexts in which the information is used presents a different set of recordkeeping requirements. The organisation should determine what records will be kept of the business conducted using each tool.
Resources for capture and retention of records.	Recordkeeping requirements for business conducted using Web 2.0 technologies should be integrated into organisational policy and procedures, including responsibilities for creation, capture and management of the records.

4.2. Canada

Library and Archives Canada was created by the Parliament of Canada in 2004, when it merged the Public Archives of Canada (founded in 1872) and the National Library of Canada (founded in 1953). The department has a mandate to facilitate the management of government information (including published material).

The Library and Archives of Canada Act 2004 outlines the role of Library and Archives Canada on the basis that:

- a) the documentary heritage of Canada be preserved for the benefit of present and future generations;
- b) Canada be served by an institution that is a source of enduring knowledge accessible to all, contributing to the cultural, social and economic advancement of Canada as a free and democratic society;
- c) that institution facilitates in Canada cooperation among the communities involved in the acquisition, preservation and diffusion of knowledge; and
- d) that institution serves as the continuing memory of the government of Canada and its institutions.

Library and Archives Canada provides leadership in the Government of Canada information management community by working collaboratively with the government agencies and others to develop standards, tools, and best practices for information management.

4.2.1. Electronic Records Management Guidelines & Advice

Advice provided by Library and Archives Canada to Canadian government departments is not technology specific; advice published on the website tends to focus on generic recordkeeping, with the exception of email where specific advice and guidelines is available (Library and Archives Canada, 2006a, 2006b, 2006c). There are some specific guidelines to assist managing records created by using emergent technologies.

4.2.2. Text Messages (SMS)

We could not find any specific advice on managing records created or captured as text or SMS messages.

4.2.3. Instant Messages (IM)

We could not find any specific advice on managing records created or captured as instant messages.

However, some Canadian State agencies, such as Alberta Government Services, have developed guidelines on aspects of electronic records management, including IM (Alberta Government Services, 2005). Alberta Government Services recommends that, due to the combination of risks associated with public instant messaging services, legal requirements for recordkeeping, and the protection of personal information, clear policies and guidelines need to be established. The guideline also states that if the ministry does not have the capability to capture and properly manage IM that are official records of government, then IM should not be used or only be used for conversations that are transitory in nature (Alberta Government Services, 2005).

4.2.4. Digital Videos

Advice published by Library and Archives Canada on managing records created or captured as videos is limited to recommendations on file types.

Table 2: Recommended electronic file types for digital video and textual documents (Library and Archives Canada, 2004)

Digital Video:	<ul style="list-style-type: none"> • Recommended - Groupe d'experts pour le codage d'images animées (MPEG-2) • Acceptable - Audio Video Interleave (AVI), MPEG-4, Quicktime (MOV), Real Networks' RealVideo (RM)
Documents – Textual:	<ul style="list-style-type: none"> • Recommended: Extensible Markup Language (XML), Extensible HyperText Markup Language (XHTML), HyperText Markup Language (HTML), Standard Generalized Markup Language (SGML) • Acceptable: Text Files (*.txt), Microsoft Word Document Format (.doc), Portable Document Format (PDF), WordPerfect Document Format (.wpd)

4.2.5. Wikis

We could not find specific advice provided by Library and Archives Canada on managing records created or captured within a wiki.

4.3. United Kingdom

The National Archives (TNA) is a UK government department and an executive agency of the Secretary of State for Justice. In April 2003, TNA was created through an amalgamation of existing archival agencies, including the Public Records Office, to provide a national archive for England, Wales, and the UK Central Government; there are separate national archives for the rest of the United Kingdom².

Responsibilities for records management in central government were originally set out in the Public Records Act (1958). The Act places the responsibility on government departments and other organisations for selecting those records that ought to be permanently preserved and for keeping them in proper conditions. In addition, Section 46 of the Freedom of Information Act 2000 requires the Lord Chancellor to issue a Code of Practice on the management of records.

² The National Archives of Scotland holds government and private documents relating to Scotland and the Public Record Office of Northern Ireland holds records for Northern Ireland.

4.3.1. Electronic Records Management Guidelines and Advice

Specific advice provided by TNA to government departments on the four emergent technologies addressed within this research project, is quite limited and dated.

The recently published Lord Chancellor's Code of Practice on the management of records, issued under section 46 of the Freedom of Information Act 2000, provides guidance to all relevant authorities as to the practice for keeping, managing and destroying records. The code does not specifically address challenges associated with creating and managing records created using emergent technologies. However, it does suggest that authorities decide the format in which their records are to be stored (Ministry of Justice UK & The National Archives UK, 2009, pp. 15-16). There is no requirement in the Code for records and information to be created and held electronically, but if the authority is operating electronically, for example using email for internal and external communications or creating documents through word processing software, it is good practice to hold the resulting records electronically (Ministry of Justice UK & The National Archives UK, 2009, pp. 15-16).

4.3.2. Text messages (SMS)

We could not find specific advice published by TNA on managing records created or captured as text or SMS messages.

4.3.3. Instant messages (IM)

A guideline on managing IM is provided by TNA along with other collaborative working applications (Public Record Office, 2001).

TNA suggest that management processes will need to be put into place in circumstances where there is a danger that IM might be used for substantive business, as the technology is not fit for this purpose (Public Record Office, 2001, p. 18). At the time of writing (autumn 2001) actual technological solutions to issues surrounding the capture of IM records were not apparent: according to TNA, in many cases, the lack of a viable printing facility removes the temporary coping mechanism that is available to manage email records (Public Record Office, 2001, p. 18).

4.3.4. Digital Videos

We could not find specific advice published by TNA on managing records created or captured as digital videos.

4.3.5. Wikis

TNA provide advice under the umbrella guideline of managing web resources, thus including wikis. Three broad steps are outlined to establishing a mechanism for managing web resources:

1. Identify which categories of website material need to be captured as corporate records;
2. Identify which methods to address this immediately where necessary (e.g. to manage uncontrolled business risk exposure); and
3. Identify a management strategy and process to develop for future management within a structured environment (Public Record Office, 2001, p. 13).

Specific management processes recommended by TNA vary from version control, tightening the handling of structured information in databases with full audit logging, to capturing content in a fully-functioning electronic and document management system (Public Record Office, 2001, p. 14).

4.4. The United States of America

The United States National Archives and Records Administration (NARA) is an independent agency of the United States Federal Government charged with preserving and documenting government and historical records, as well as with providing public access to those records. NARA is officially responsible for maintaining and publishing the legally authentic and authoritative copies of acts of Congress, executive orders, and federal regulations. Moreover, NARA issues guidance to federal agencies to assist them with managing and disposing of federal records.

In the USA, at the State level, an archival agency is responsible for the state's archival records and establishing the requirements for the disposition of state government records.

4.4.1. Electronic Records Management Guidelines & Advice

The NARA website has a comprehensive amount of guidelines and recommendations at both a generic records management level as well as specifically focused on electronic records management. In addition to offering general advice to government agencies, NARA is the managing partner of the Electronic Records Management Initiative. This initiative is part of the US President's e-Government agenda aimed at making it simpler for citizens to receive high-quality service from the US Federal Government while reducing the cost of delivering those services.

The Electronic Records Management Initiative aims to provide the tools that agencies will need to manage their records in electronic form, addressing specific areas of electronic records management where agencies are having major difficulties. This project enables agencies to transfer electronic records to NARA in a variety of data types and formats so that they may be preserved for future use by the government and citizens (National Archives and Records Administration, 2009).

4.4.2. Text messages (SMS)

We could not find specific advice published by NARA on managing records created or captured as text or SMS messages.

4.4.3. Instant messages (IM)

NARA's advice on IM states that agencies allowing IM must recognise that the content may be a federal record and must be managed accordingly (National Archives and Records Administration, 2008b). The ephemeral nature of IM heightens the need for users to be aware that they may be creating records, while records management staff must determine the status of the IM content based on the overall organisational policies (National Archives and Records Administration, 2008b).

The advice suggests two options for agencies to manage IM content:

1. Provide policies that inform users what steps to undertake to manage the content; or

2. Configure the IM client to capture IM without user intervention; nearly all IM software has the ability to capture content (National Archives and Records Administration, 2008b).

4.4.4. Digital Videos

NARA has published a FAQ that provides advice to federal agencies to assist them in meeting their records management responsibilities when dealing with digital audio and video records (National Archives and Records Administration, 2008a).

The advice is technically focused and includes such recommendations as identifying the formats that are acceptable for digital video files, including:

- Audio-video Interleave format (AVI),
- Material Exchange Format (MXF), and
- Quicktime format (MOV) (National Archives and Records Administration, 2008a).

Furthermore, the advice recommends that metadata should be applied to digital audio and video files, usually within a separate data file.

4.4.5. Wikis

NARA has published a guideline on the implications of emergent web technologies, including portals, RSS feeds, blogs, and wikis, building on a previously published guideline on managing web records (National Archives and Records Administration, 2005).

The guideline states that, as with any content, the management of web records is a risk consideration for the agency (National Archives and Records Administration, 2007). The guideline recommends government agencies to determine whether the collaborative process documented by the wiki should be captured along with the final product. NARA also recommends agencies to determine the amount of content required to make the wiki significant or “authoritative” from a records management perspective (National Archives and Records Administration, 2007). Furthermore, the guideline suggests that wikis that have been scheduled for permanent retention could be effectively captured using web harvesting; this would require the technical ability of capturing changes available at the web browser.

5. Analytical Framework and Research Design

The literature review shows that there is not much academic knowledge or policy advice available on how records created by emerging technologies could be managed effectively. Moreover, we can observe that, to date, there is little empirical understanding about how government agencies are actually managing electronic records created using newly available ICTs (Brogan & Vreugdenburg, 2008; Lips, et al., 2008). In order to make recommendations on how the management of electronic public records can be done effectively, we first will need to find out more about what is actually happening at the frontline of government agencies where public servants are managing public records.

Consequently, in this research project, we empirically explored the decisions and resulting behaviours of individuals who identified and managed emergent forms of public records in recent public sector activities in New Zealand. This section of the report first describes the analytical framework we used for this study. Subsequently, we introduce and further explain the research design and the data collection methods used in this project.

5.1. Analytical Framework

In 1995, John McDonald compared recordkeeping in modern offices to the wild frontier of North America in the eighteenth and nineteenth centuries. McDonald (1995) suggested that as the organisational rules and other mechanisms were not established in the electronic world, the wild frontier was more the norm than the exception. It was the office worker, not the organisation, who decided what information would be created, transmitted and stored (McDonald, 1995, p. 71). Office workers used their own approaches to describe and classify documents, and when directories got full, “they simply got rid of the stuff they didn't need anymore” (McDonald, 1995, p. 71).

Ten years after his original article, John McDonald (2005) suggested that while significant steps had been taken since 1995, the path out of the wild frontier remained as elusive for most organisations as it was ten years ago. The chaos presented by electronic documents stored on unorganized shared drives remains as real today as it was ten years ago. He continued by stating that the effective management of electronic records is not simply a technology issue, but one that requires an infrastructure of legislation and policies, standards and practices,

systems and technologies, and people, all supported by an effective management framework and leadership capable of continually aligning the infrastructure, in support of the business of the organisation (McDonald, 2005).

These research findings illustrate the need to focus on the people who are actually managing electronic records in order to decide what infrastructure and support are needed to achieve effective electronic records management. While the primary responsibility for compliance with relevant recordkeeping legislation lies with government agencies, the day-to-day responsibilities for recordkeeping have been delegated to individual public sector employees. Many government agencies publish specific policies within their organisations to meet the legal recordkeeping requirements and, simultaneously, to support employees in carrying out their recordkeeping responsibilities.

This situation, however, implies that public servants in these organisations have become arbiters of the public interest of good recordkeeping. In applying existing legislation on behalf of their organisation as well as agency-specific recordkeeping policy, public servants have the policy discretion to manage public records according to their personal interpretation of relevant legislative and policy responsibilities (Allison, 2008): they make critical decisions on the identification and management of public records in their day-to-day activities (Nalley & Zajek, 2005).

Furthermore, as recordkeeping goals and requirements have usually been formulated in general terms, individual employees need to make value judgments in deciding upon ‘correct’ recordkeeping behaviour (Simon, 1976). Research findings on the policy discretion of ‘street-level’ or frontline public servants confirm this important assessment ‘space’ for government employees, showing that, in many cases, public service and administrative needs are too complicated to be reduced to precise instructions (Lipsky, 1980).

In the New Zealand context, Archives New Zealand (2006) provides the following general advice on the recordkeeping responsibilities of public servants, which then need to be further interpreted by individual government employees in their various public activities:

- Make records

- File and keep records
- Handle records with care
- Prevent illegal disposal of records
- Prevent unauthorized access to records
- Know your organization's recordkeeping policies
- Undertake all recordkeeping activities to the standards set under the Public Records Act

As the legal definition of a record in the New Zealand public sector context requires, the policy discretion of public servants in recordkeeping practices is not restricted to traditional paper-based records. Individual government employees are responsible for identifying electronic items as public records, including those created by emerging technologies, such as SMS messages, IM, digital videos and wikis. Therefore, individual government employees decide how, when and where electronic public records are identified, created, captured and maintained.

Facilitating new electronic information relationships between public servants and the general public, the introduction of emergent technologies in public sector activities may lead to ambiguities of choice for public servants in deciding on 'correct' administrative behaviours in these new environments (March, 1988). As public servants experience new conditions for the identification and management of records in public sector environments enabled by emergent technologies, also compared to familiar paper-based public service environments for instance, they will need a new appreciative setting for making decisions on their electronic recordkeeping behaviours. That is, public servants require a new readiness of the mind to see, value, and respond to electronic recordkeeping situations in familiar ways (Vickers, 1995).

The requirement for a new appreciative setting to appropriately manage public records created in public sector environments supported by emergent technologies leads to important empirical research questions about how public servants actually identify, create, capture, and manage public records created by text messaging, instant messaging, digital video technology and wikis. In this research we explored the recordkeeping decisions and resulting behaviours of individuals who needed to identify and manage emergent forms of public records in recent

public sector activities within the context of existing legislation (e.g. the PRA and the Create and Maintain Standard) as well as agency-specific policy. On the basis of these research findings we analysed the appreciative setting ‘constructs’ of public agencies in dealing with new electronic public records, and to what extent these constructs of appropriate public records management are in line with existing legislation and organisational policy requirements.

5.2. Research Design

In order to understand recordkeeping decisions and behaviours of New Zealand government employees dealing with new electronic public records, we needed to examine this contemporary phenomenon within its real-life context and therefore chose to use case study methodology (Yin, 2009). Moreover, by adopting a multiple case study approach, we were able to focus on the development of individual case studies under similar legal circumstances, while developing an understanding of the particularity and complexity of each individual case (Patton, 2002). Using case study methodology also provided us with the opportunity to bring a depth of understanding to our work that would enhance reliability, enrich our subsequent analysis, and enhance the external validity and transferability to New Zealand policy and practice of the research findings (Patton, 2002; Seale, 1999).

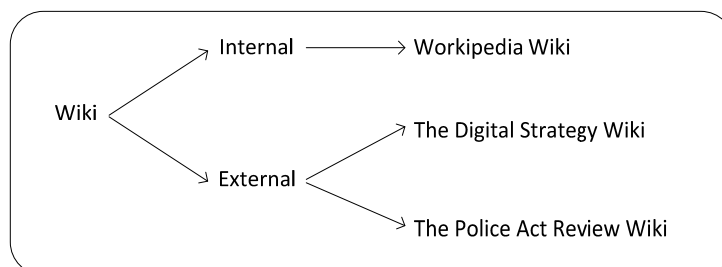
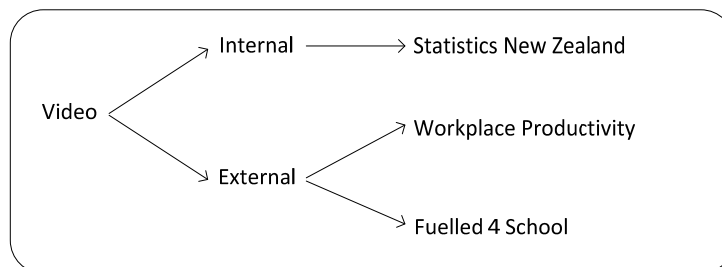
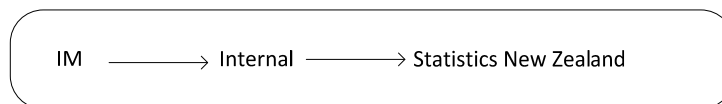
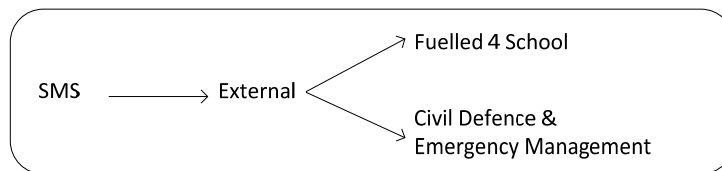
We chose to conduct case studies in which text messaging, instant messaging, digital video technology, or wikis had been used for New Zealand public activities. These technologies were selected based on findings from our research project on email records management, where we found out that a number of agencies is struggling to manage records created using these emergent technologies.

The scope of the research was restricted to cases within the New Zealand state sector. Not only do these government organisations have substantial dealings with the general public through public service provision and engagement, many of them are using emergent technologies in these external relationships with the general public and/or in internal collaboration activities. This situation provided us with a basis to compare relevant similarities and differences in recordkeeping decisions and behaviours around the use of emergent technologies, while operating within the same recordkeeping legislative framework.

Furthermore, we were interested in ensuring that the cases selected covered different types and forms of records created and managed (e.g. ephemeral records, transactional records, or records documenting engagement with members of the public).

On the basis of these criteria we selected a variety of recent initiatives within the New Zealand state sector where text messaging, instant messaging, digital video technology, or wikis, have been used to engage with the general public and/or to collaborate internally. The following seven case studies were conducted:

Overview of Case Studies



A detailed description of each case study, including background information, is presented in Section 6 of this report.

5.3.Data Collection

Prior to initiating the data collection, we sought permission to conduct the research at the departments in scope. We notified Chief Executive Officers (CEOs), or equivalents, at each of the departments in writing, thus providing them with an opportunity to opt out or to contact the research team with further questions.

We used multiple sources of evidence in our case study research (Yin, 2009). We conducted semi-structured interviews with key individuals involved at the strategic, operational and policy levels in each of the seven cases to explore individuals' decision making around new electronic records and their resulting recordkeeping behaviours. These key individuals included project managers, policy advisors, members of project teams and records managers. We also undertook a review of available online documentation for each of the seven case studies to inform us further about the strategic and operational context of the public initiatives.

We used the e-initiatives wiki, managed by the State Services Commission, to identify potential cases. The e-initiatives wiki is a collaborative knowledge base for public service employees to share and update information on ICT projects across the New Zealand State Sector. Information on the e-initiatives wiki included a summary of the initiative and key contacts. On the basis of this information we identified cases that met our selection criteria and initiated contact with key individuals.

Semi-structured interviews were conducted between February and May 2009. The interviews were voice recorded for administrative purposes, with consent from participants.

In designing our interview structure, we acknowledged that research participants might be inclined to provide input based on their full experience of the initiative and with the benefit of hindsight. Generally in this research, we have not attempted to evaluate whether or not the technologies used are the most appropriate, or to evaluate the technical design of the technologies. In addition, we appreciate that the use of case study methodology limits our ability to generalise the research findings beyond these seven cases.

6. Case Studies

6.1. Civil Defence and Emergency Management's National Warning System

6.1.1. Background

The Ministry of Civil Defence and Emergency Management (MCDEM) is a Ministry within the Department of Internal Affairs. The Ministry provides policy advice to the Government on civil defence and emergency management (CDEM) and provides leadership, strategic guidance, national co-ordination and facilitation for activities across the CDEM sector and across the 'four Rs' of risk reduction, readiness, response and recovery (Ministry of Civil Defence and Emergency Management, 2009a).

MCDEM manages the National Warning System, which provides a process for the distribution and receipt of warnings and communication of civil defence emergency management related warnings at all hours (Ministry of Civil Defence and Emergency Management, 2009a).

National warning messages are warnings or advisories issued by the Director of Emergency Management for all or part of New Zealand in respect of hazards that might lead to or worsen a civil defence emergency; for example, warnings about severe weather, volcanic eruptions or tsunamis. The National Warning System facilitates sending warning messages to CDEM Groups and their member local authorities, emergency services, certain government agencies and lifeline utilities and, when required, to radio and television stations. Local CDEM groups are responsible for disseminating national warnings to local communities and maintaining local warning systems (Ministry of Civil Defence and Emergency Management, 2009a).

6.1.2. Implementation

In 2007, the Ministry upgraded its system for sending national warning and advisory messages to the CDEM sector. The National Warning System was further refined in 2008 through a series of internal and national tests (Ministry of Civil Defence and Emergency Management, 2009b).

Since December 2007, the system sends the messages by email, fax or SMS to all nominated recipients. The content of these messages contain the best information available at the time, therefore, initial messages may contain less detailed local information than subsequent ones. Local authorities are required to assess the information in terms of local impact and subsequently issue appropriate local warnings and instructions. The National Warning System issues different types of warnings and advisories depending on the hazard and the assessment of potential impact. The types of warnings issued via the National Warning System include:

- National Advisory – No Threat to NZ
- National Advisory – Potential Threat to NZ
- National Warning – Threat to NZ
- National Advisory – Cancellation Message
- National Warning – Cancellation Message
- Media Release
- National Warning – Test Message

There are approximately 500 recipients of the warning messages managed within the National Warning System, also referred to as dissemination points. These dissemination points include representatives from CDEM Groups, central points within the emergency services, representatives from national agencies and lifeline utilities, as well as central points at radio and television stations. MCDEM maintain the contact details of the recipients within the National Warning System through quarterly updates, although they also rely on recipient agencies to correct and update their details as and when changes occur. The National Warning System allows MCDEM to specify the audience of the warnings, using pre-identified groups (i.e. messages are not sent directly to the general public).

MCDEM test the system four times a year. During this test, they send a test message via email, fax, or SMS to all the recipients. All recipients are required to acknowledge and confirm receipt of the test message within thirty minutes of receipt using email, SMS or by telephoning, whichever method is easiest for them. The content of the test message is based on:

This is a test to exercise the passage of a national Civil Defence Emergency Management (CDEM) warning message as required under clause 62 of the National CDEM Plan (Ministry of Civil Defence and Emergency Management, 2008).

The warning system automatically logs the email and text confirmation messages. Gen-i are contracted by MCDEM to provide a centralised call centre; it is Gen-i who receive the telephone replies and call centre staff are responsible for logging them into the National Warning System so they are available, along with the email and text confirmation messages.

A confirmation report is created by the National Warning System, and MCDEM staff can view this report and make follow up calls to any person or organisation that has not confirmed their receipt of the warning (Ministry of Civil Defence and Emergency Management, 2008). Anecdotal evidence suggests that a significant proportion of the confirmation messages are received via SMS, as it is easy, convenient and people can use it at any time.

MCDEM acknowledge that while SMS as a technology to support national warnings has benefits for recipients, it is not a reliable means of communication for this purpose and therefore is used only in conjunction with other dissemination methods. Current technology offered by service providers in New Zealand present a number of limitations to using SMS messages to communicate national warning messages that makes it unfeasible as a stand-alone communications channel, including:

- Possible blocking of the system due to congestion.
- Reliance on third party services: Significant delays with delivery of SMS messages are often experienced, even during ‘normal’ (supposedly no congestion) times, due to unknown service issues encountered by a specific service provider at the time.
- Currently, the technology is unable to target people in specific geographical areas.
- Recipients may find themselves in an area with no or limited mobile coverage due to terrain or structural factors (Leonard, Wright, Smith, Johnston, & Kidd, 2008).

6.1.3. Recordkeeping Conditions & Practices

The Department of Internal Affairs runs Lotus Notes as the operating system for its technical infrastructure, including the electronic document and records management system (EDRMS), referred to internally as the DMS. The DMS has been in place at the Department for a number of years and is available to all Department of Internal Affairs staff, including MCDEM staff. The DMS can manage electronic files from a range of applications, but is focused predominately on managing standard document based file types, such as text files, spreadsheets and word processing files.

The MCDEM team have a standard practice whereby they save pdf copies of advisories and warnings in the area of the DMS created for each specific event.

The National Warning System also automatically collates the SMS and email confirmation messages from recipients, and these cannot be deleted from the system. In addition, the National Warning System automatically generates confirmation reports, which include the respondent and non-respondent information as well as any issues experienced. Members of the MCDEM team also save copies of these reports as pdf files in the DMS. The National Warning System maintains copies of the reports permanently; these cannot be deleted from the system.

The Department of Internal Affairs' records management team are available to provide recordkeeping advice to all business units within the department, including assistance using the DMS. While MCDEM receive generic messages about information and records management from the records management team, at the time of the interview, the records management team had not provided specific information on managing messages generated by the National Warning System to MCDEM. Moreover, MCDEM had not requested recordkeeping advice from either the records management team within the Department of Internal Affairs or Archives New Zealand on how to identify, store and manage records created in relation to the National Warning System.

The Department of Internal Affairs' records management team were aware of the National Warning System. However, the records management team had not considered a specific

approach to manage records created in relation to the National Warning System. During the interview for this case study, staff from the records management team acknowledged that it is important that the MCDEM team maintain records about the distribution of all warning messages. Records management staff suggested during the interview that the MCDEM team should retain the list of recipients of warnings or advisories, the content of the message, and the methods used to distribute the message. These records should be stored in the Department's records management system, the DMS, and retained according to the Department's retention and disposal schedule.

6.1.4. Analysis of Recordkeeping Challenges

While consideration was not given to records management requirements by the team, and there was no records management expertise involved in the development of the system, the resulting practice meets the Department's recordkeeping requirements. The practice is also in line with current legislation, as the records are captured, managed and not destroyed without the necessary approval. There was a general lack of awareness by the MCDEM team of recordkeeping responsibilities, and their behaviours were driven predominately by business process requirements.

The MCDEM team dealt with the information created using SMS in the same way as information created using other technologies used to communicate with the CDEM sector, such as email and telephone. They did not perceive the records created through the use of SMS as introducing any new recordkeeping challenges; for example, in the development of the confirmation reports, the National Warning System systematically collated SMS messages received with email and telephone and automatically prepared the report.

6.2. The Digital Strategy 2.0 Wiki

6.2.1. Background

The New Zealand Government released the Digital Strategy in 2005. This strategy set out the government's direction for a digital future for all New Zealanders, using the power of ICTs. In 2007, the Minister responsible felt that, because the environment was changing so quickly both in New Zealand and internationally, an update to the strategy was required. The Minister requested that consultation occurred with the community on the use and access to ICTs. A small team was formed to manage this project, comprising of a communications advisor and four policy analysts.

During the consultation process to update the Digital Strategy, the project team decided to highlight some of the technologies that were mentioned in the strategy. By this time, a draft of the Digital Strategy 2.0 had already been prepared based on results of focus group meetings with interested parties. The team also facilitated a Digital Future Summit in November 2007, where representatives from government and business were invited to discuss opportunities for ICTs in New Zealand and to help coordinate digital initiatives across government (Ministry of Economic Development, 2007).

Initially there were various ideas about the digital consultation option. The team discussed using a blog where it would be possible to post ideas and people could comment. They also discussed using an online forum where questions could be posted for people to answer and discuss. Alternatively, they discussed using a wiki where members of the public could edit the draft strategy and post comments directly online.

Following an evaluation of these options, the team decided to use a wiki as the digital channel for the general public to make submissions and comments on the draft Digital Strategy 2.0. The decision to use a wiki was also the option preferred by senior management.

6.2.2. Implementation

The Digital Strategy 2.0 submission process allowed the public to highlight issues and opportunities that may have been missed in the draft strategy document and to propose actions and policies to achieve New Zealand's digital potential (Ministry of Economic Development, 2008, pp. 47-49). When the project team publicly released the wiki, it included a copy of the draft strategy, space for the public to post comments and make edits to the strategy, and a series of questions that people could respond to (refer to Appendix B: Digital Strategy 2.0 Questions for more information).

Submissions on the draft Digital Strategy 2.0 were invited over a six-week period, from 15 April 2008 until 23 May 2008. People could have their say by participating in the wiki, providing responses via a submission form, or providing written submissions by email, letter or fax; however, the preferred format for submissions was electronic, via either the submission form or email (Ministry of Economic Development, 2008, pp. 47-49). During this period, the wiki was available for comments and edits by the general public. In addition to maintaining the wiki, the Ministry also consulted with a range of interested groups through face-to-face meetings, online discussions using an online forum, and discussions in Second Life.

A link to the wiki was available on the New Zealand government portal website, the Ministry of Economic Development website, and the Digital Strategy website. The team identified the initial audience of the wiki as the attendees of the Digital Future Summit (approximately 500 people) as they knew that this group were already using online social media tools. In general, as training resources were not available, the wiki was targeted at people that already knew how to use wikis.

Approximately fifty people visited the wiki at least weekly and contributed comments, edited content and answered questions online. In addition, there were approximately one hundred people who visited the site at least once over the six-week consultation period.

People were able to write anonymously on the wiki. If they wanted to they could register with their real names or with web profiles; however, if people wanted to be updated on the

process, they were required to provide their email address. People who did provide email addresses received a summary of the online submissions (email and wiki) and links to the complete summary. They also received a link to the final document when it was released.

The team defined a Terms of Reference (ToR) for use of the wiki, which included rules on expected behaviours of visitors. This ToR was made available to all wiki visitors. The rules, for instance, set out that the project team would remove any obscene language, threats, or irrelevant comments. Moreover, the wiki functionality supported moderation of content by banning certain words, so if someone typed one of these banned words, for example 'terrorist', it would show in the wiki as a series of 'X'. The team also found that regular visitors to the site were helpful in moderating comments, as they reviewed the comments made by others and initiated online conversations.

The team checked the wiki daily to respond to any questions and review the comments made. The level of interaction on the wiki meant it was possible for one person to manage, especially as no moderation issues arose. This meant that the team did not have to edit any comments, so the wiki submissions were maintained exactly as people wrote them online. In addition, the team made visitors of the Digital Strategy wiki aware that any comments provided would be subject to the New Zealand Official Information Act (Ministry of Economic Development, 2008, pp. 47-49).

It was decided to host the wiki on a separate server because it was still quite new technology at the Ministry and it was not clear how high the level of interest would be for the wiki.

The team received a very small number of submissions from international visitors (only one to two) and these were managed in the same way as other submissions made on the wiki. Other international visitors (between eight and ten people) provided comments about the wiki-supported consultation process, such as how great it was that the team was trying new technologies, and some people provided URLs of other ideas. These comments were incorporated into the supporting material.

After the six-week consultation period, the team closed the wiki for editing and they collated the comments and edits for analysis. The team found that submissions made on the wiki were quite difficult to manage; in some cases one person had provided a single sentence comment, while someone else had written an email or sent a letter that answered each of the questions asked. In addition, there were consultation submission challenges where a member of the general public edited a section, which someone else updated later. In response to these challenges, the team decided to group wiki comments made on the same subject, e.g. broadband access, and manage them as single submissions.

The team prepared a summary of submissions by stakeholder for the policy analysts to review, which treated wiki contributors as a single group of stakeholders. Other stakeholder groups included IT companies, telecommunications companies, community groups and people using ICT for creative industries.

The team then re-categorised the submissions for review by issue. The wiki submissions were still grouped by similar ideas or comments, rather than as individual comments. So for example, all the people who made comments and edits about broadband access on the wiki were collated into one summary sheet; similarly the comments and edits on creative industries were treated on a separate sheet.

In addition, two Second Life meetings were held to get feedback on the draft Digital Strategy 2.0. Independent interested individuals moderated both of these meetings. At both of these meetings, approximately 10 people attended. The comments provided were kept with the wiki submissions when the team summarised the submissions by stakeholders.

6.2.3. Recordkeeping Conditions & Practices

The Ministry operates a paper-based recordkeeping system and a team of records management staff are available to provide advice and guidelines on agency-specific recordkeeping practices.

In most ICT-supported initiatives at the Ministry, the internal information technology group is involved and in some cases project teams consult with the records management team, who

are part of the wider Organisational Development and Support branch. In this particular case, the internal information technology team was not involved due to the short timeframes in place and the project team engaged an external IT provider. The project team did not request assistance from the organisation's recordkeeping team or consult with Archives New Zealand during the project. However, records management staff became aware of the initiative, albeit quite late in the wiki development process, and were able to provide recordkeeping advice to the project team at that point. This involvement was only approximately a week before the team made the wiki available online and was too late to incorporate any electronic recordkeeping standards into the wiki.

The records management staff had limited experience with wikis, however, they advised the team they needed to capture all comments and edits made on the wiki as public records. The team had arranged for the retention of an electronic copy of the wiki, which would be searchable by internal staff. However, this electronic copy did not meet the organisation's recordkeeping policy, which required that all records were maintained physically. For this reason, when the project team closed the wiki for comments, records management staff advised that the team print the wiki pages for each day that the wiki had been available. Once printed, the team filed the wiki pages in the paper-based files according to the Ministry's recordkeeping policy, along with all other submissions made.

The meetings held in Second Life were available as electronic transcriptions because the voice activation was turned off during the meetings and the participants were required to type their comments. This meant the team could keep the transcripts archived electronically with the other submissions and the transcripts to be managed as records in the Ministry's paper recordkeeping system.

The Digital Strategy 2.0 project also maintained a Facebook page, which provided a method to stay engaged with attendees of the Digital Forum during the consultation process. A snapshot was taken a month after the forum, before Christmas 2007, and then when the wiki was available the IT group took another snapshot. As this was used as an engagement tool, the facebook page snapshots were not captured with the submissions.

The wiki has been removed from the Internet as it has now met its specific purpose. The consultation has finished and the Digital Strategy 2.0 has been completed.

6.2.4. Analysis of Recordkeeping Challenges

Although the Digital Strategy team had arranged for the retention of an electronic copy of the wiki, this did not meet the organisational records management policy and therefore the team were required to print the wiki content on a daily basis. The paper records were then filed in the paper-based files.

From a recordkeeping perspective, the records management team applied the traditional approach of print and file to capture the records created in the wiki. The decision to capture the records in this way reflected the recordkeeping system in place within the organisation; where a paper-based system is in place all items must be captured in paper. In this way, standard recordkeeping approaches were applied to records created from the use of emergent technologies. While the capture of the records was complete and these records remain useable, accessible, and reliable, the actual effort required to capture the records was not efficient and could bring into question the integrity and authenticity of the records (i.e. can the agency prove that the printed records are authentic and their integrity remained intact during the capture process?).

6.3. Fuelled 4 School

6.3.1. Background

The Student health promotion initiative ‘Fuelled 4 School’ was part of the ‘Mission On’ campaign, a cross government initiative aimed at improving nutrition and increasing physical activity levels of young New Zealanders, specifically those aged between 0 and 24. The campaign involved Sport and Recreation New Zealand (SPARC), the Ministry of Health, and the Ministry of Education, with support from the Ministry of Youth Development. The three main agencies led different aspects of the work, with the Ministry of Education responsible for leading an activity primarily based in education settings and an activity aimed at student health promotion, namely Fuelled 4 School.

Fuelled 4 School targeted the hard to reach audience of students aged between of 11 and 17 years old, encouraging eating better food and being more active. There were three main elements to this student health promotion activity:

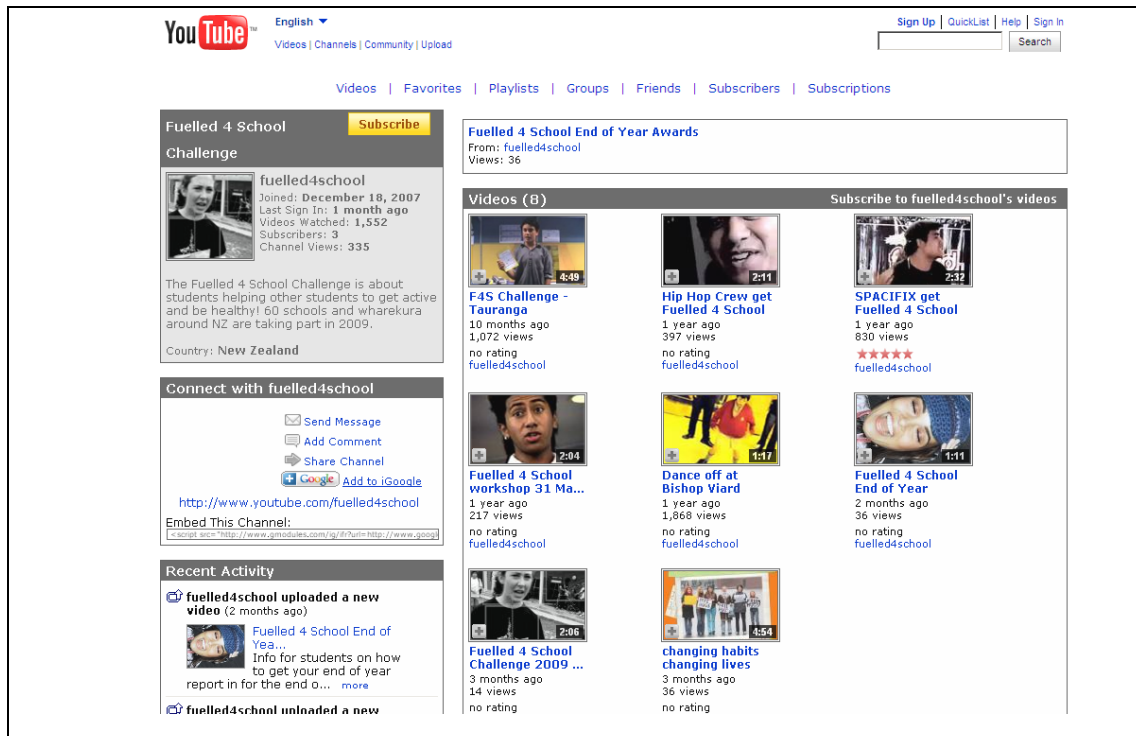
- The Fuelled 4 School Challenge, which involved students from intermediate and secondary schools to improve the eating habits and general health of everyone at their school.
- A Fuelled welcome pack aimed at getting Year 9 students to focus on adopting healthy habits to support their learning as many of them made the transition to secondary school.
- The Fuelled interactive website, which engaged students directly with quizzes, competitions, and giveaways, while providing advice and encouragement to eat well and stay active at school.

6.3.2. Implementation

Between January 2008 and June 2009, the Ministry of Education managed the Fuelled website and the Fuelled 4 School Challenge activity. Alongside the website, the team managed a Fuelled Bebo page and used YouTube (see Figure 1), a public video-sharing website, to post video content. Students who visited the Fuelled website could register themselves to send and receive free SMS messages. To register, students needed to complete SMS registration details on the Fuelled website; they then received an SMS confirmation text

to which they had to opt in to receive text alerts. This prevented someone being registered by someone else without their permission. Once registered, students could send free SMS messages to enter competitions, ask questions or provide comments. The Fuelled group could send SMS responses either to individuals or to groups, and there were more than 1,000 SMS subscribers registered at the start of 2009, despite little advertising or promotion.

Figure 1: Fuelled 4 School's YouTube page (5 October 2009)



To reduce costs, the Fuelled team created a YouTube channel interface for the website, rather than developing and maintaining a video platform internally. In most cases, the digital videos were created as QuickTime files and posted onto the YouTube account, then linked to through the Fuelled website and sometimes the Bebo page. Videos related to the Fuelled for School Challenge were developed by the Ministry, or created by students, entered into the Fuelled for School Challenge and uploaded onto YouTube by a member of the Fuelled for School project team.

The free services (Bebo and YouTube) were initially employed to complement the Fuelled website. They provided functionality that was still being developed on the Ministry of

Education's content management system (quizzes, polls etc). These services also provided an additional communications channel that was already widely used by the target audience.

The Fuelled team aimed to provide immediate feedback to students interacting on the Bebo and YouTube pages, and via SMS. Consequently, the Bebo and YouTube pages were checked by a team member at least daily.

An issue faced by the team as a result of using third party tools like Bebo and YouTube was the lack of control on advertising happening on the YouTube and Bebo pages. For instance, there were several occasions where members of the Fuelled team found unrelated websites advertised on the Bebo page. Apart from including a disclaimer on the website and the Bebo page, that indicated that Fuelled 4 School was not responsible for the advertising material on external websites, there was very little the team could do:

The Ministry of Education does not accept any liability for the accuracy or content of information on this website belonging to third parties, nor for the accuracy or content of any third-party website that you may access via a hyperlink from this site. Links to other websites from this one should not be taken as endorsement of those sites or of products offered on those sites (Ministry of Education, 2009).

Another issue encountered via the use of YouTube related to a feature that recommended 'related videos' after a video was played. YouTube automatically selects possible related content based on how the initial content has been tagged. This led to some unrelated digital videos being recommended to visitors to the site. The group investigated and worked out how to deselect that function, which resolved the issue.

The team moderated the comments that students made on the Bebo page; in addition, the posting of comments on YouTube was disallowed. If students made inappropriate comments, the team did not post them; however, this was not an issue for the team. The team did not have any Terms of Reference for use of the Bebo site and used their personal discretion to identify inappropriate content. If students voluntarily provided any personal information on

the website (e.g. through email feedback or online forms), the Fuelled team kept that personal information secure and did not disclose it to a third party (Ministry of Education, 2009).

6.3.3. Recordkeeping Conditions & Practices

The Ministry of Education has a records management team who provide recordkeeping advice and guidance to all staff. The Ministry also has approved a recordkeeping policy, which is available to all staff, and is in the early stages of implementing an electronic document and records management system (EDRMS).

During the process to implement the website, including the use of SMS and YouTube, the Fuelled team had no specific interaction with the records management team at the Ministry, but were aware of general Ministry recordkeeping requirements, such as the need to create and store records. Moreover, the Fuelled team knew that content maintained on third party applications, including Bebo and YouTube, was not automatically backed up. This meant that the team needed to make an effort to ensure records were created and managed within the Ministry, particularly in relation to external transactions, such as giving prizes to students.

The Fuelled team kept electronic records on the organisational shared drive, dedicated to the student health promotion activity. All electronic documents relating to the Fuelled website were stored in this shared drive, including project information (business cases, contracts, project plans) and information technology documentation. The Fuelled team continued to use shared drives to manage electronic records until the organisation-wide implementation of the EDRMS is complete.

The SMS messages were managed by an external company. The external company stored the database of students' numbers, as well as the messages sent and received. The team had the facility to generate reports on the information held by the external company. Approximately once a month, a member of the Fuelled team used the external company's reporting tool to generate a report of all the SMS messages sent and received. The team stored this report electronically in the shared drive.

The data held by the external company also made it possible to show all the correspondence relating to a specific number; for example, by selecting a specific phone number, the system highlighted all the SMS messages that had been sent and received to that number. The team kept separate records of SMS messages only where they related to prizes or monetary transactions, for example, prizes awarded to student participants in quizzes and games on the website. Reports on these SMS messages were stored electronically in the shared drive. In addition, any digital videos created by the Fuelled team were stored on the shared drive. Third party digital videos, for instance digital videos displayed on the Bebo page that were relevant to the topic, were not kept within the Ministry, as they were copies of digital videos created and owned by other You Tube users.

The student health promotion activity ended in June 2009 and the Fuelled website and other activity have consequently ended. The URL is still active and displays a holding page which explains that the campaign is no longer active. The Bebo page has been removed from the Internet. The Fuelled for School Challenge is continuing until the end of 2009 and this section of the website and the Fuelled YouTube page remains active to support this.

6.3.4. Analysis of Recordkeeping Challenges

The Fuelled 4 School team had a general understanding of the Ministry's recordkeeping policy and tried to apply standard recordkeeping behaviours to records created using video; for example through the use of a shared drive to store videos created by the team.

To capture records created using SMS, the team perceived that new recordkeeping behaviours were required. Moreover, the recognition was high amongst the team for the need to capture any SMS messages that confirmed financial transactions; for example if a student won a prize and this was communicated to the student via SMS then a copy of the SMS was downloaded from the external company and stored in the shared drive. These financial records were captured independently of all other SMS based transactions, presumably reflecting the higher value of the transaction. The team decided to make a copy of all of the SMS transactions using a report generated by the external company on a regular basis. While it is not clear how regularly this report was generated and therefore how timely the capture of the records was, this provided the organisation with a useable and accessible copy all transactions created using SMS.

6.4. The Police Act Review Wiki

6.4.1. Background

In March 2006 the New Zealand government initiated a comprehensive review of the legislative arrangements for policing in New Zealand, leading to a rewrite of the 1958 Police Act. A small group, comprising a project manager and five project team members, was formed to lead the consultation and policy development process. This group had its own brand and website to ensure a certain level of detachment from the traditional view of policing in New Zealand (State Services Commission, 2008b). The Minister of Police and the Commissioner of Police gave the review team a broad-ranging mandate to return to the principles of the existing Act, to challenge things previously taken for granted and to encourage public debate.

To achieve a first principles review, the team needed to generate significant public interest in the review of the Act. It was also important that the team was able to raise awareness amongst ‘hard to hear and hard to reach’ target audiences like youth, Maori, Pacific Island people and expatriate New Zealanders, and they needed to do this with a limited communications budget. These challenges led the team to pursue both traditional and non-traditional channels, including exploiting free media channels where possible, in order to draw in as many voices to the review process as possible.

The public consultation process followed three phases. The first of these phases began in June 2006, with the release of eight issues papers over a six-month period. The second consultation phase commenced with the Minister of Police's release of the discussion paper ‘Policing Directions in New Zealand for the 21st Century’ on 31 May 2007. Public views on the paper were invited over a two-month consultation period.

In March 2006, the review team held a brainstorming session to explore how they could effectively communicate to all New Zealanders, including those overseas, within the limited communication budget. An important outcome of this brainstorming session was the need to investigate opportunities provided by social networking sites. After evaluating MySpace and YouTube, the team found them unsuitable, and the review team decided to take advice from

the State Services Commission (SSC) on opportunities in the area of e-participation. The SSC recommended that based on the review team's business needs, they should have a look at wiki software. Although the review team had not used wiki technology previously, they were pleased to find that the software was free and that their webmaster was familiar with the technology.

6.4.2. Implementation

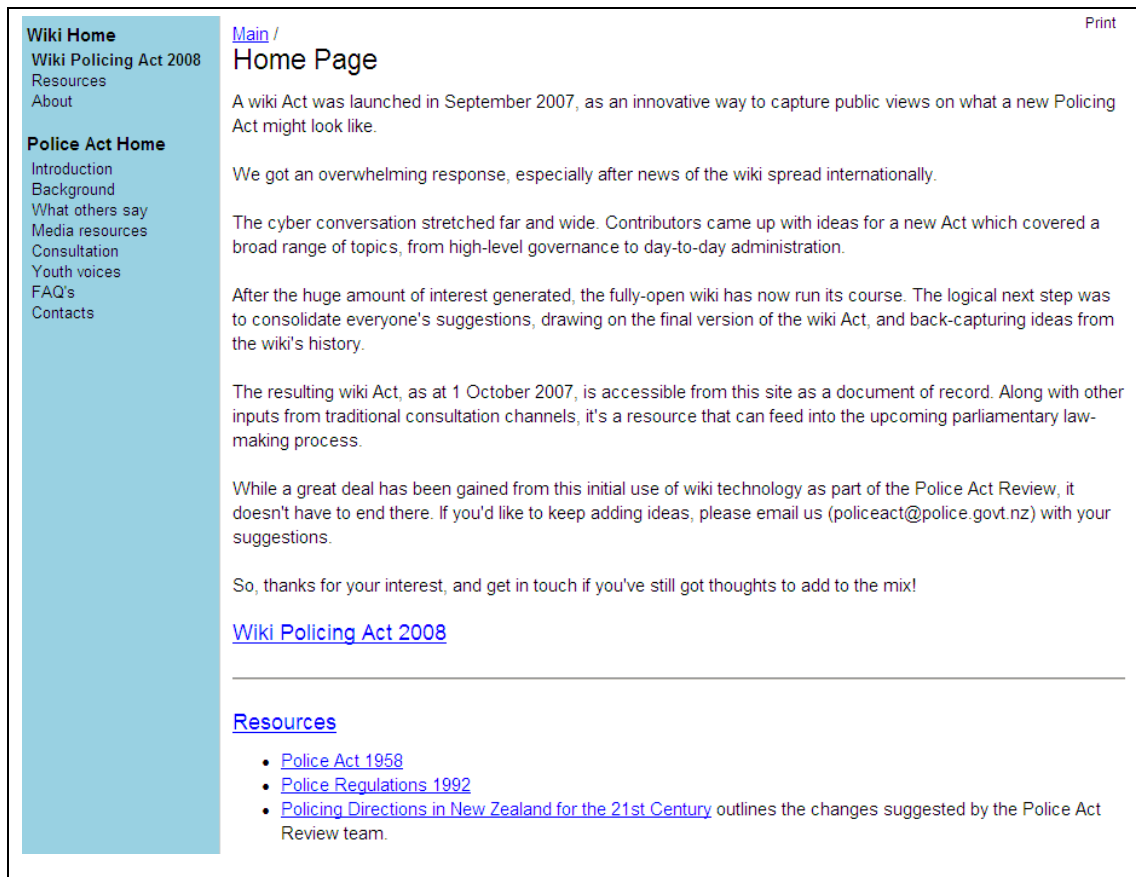
Once the review team obtained official permission for using the wiki via a Cabinet Minute and drafting instructions for a new Policing Bill had been issued, the Police Act Review Wiki was launched on the 26th of September 2007 (State Services Commission, 2009a). From that day on, the wiki was available for comments. The wiki was launched with limited content and a high-level structure; this initiated the process and provided contributors with a 'starting place' (see

Figure 2). The Police Act Review wiki was intended to provide an innovative way to capture opinions from members of the public.

The development of the wiki provided a complimentary step for capturing public views on what a new policing act might look like from New Zealand residents and citizens as well as from expatriate New Zealanders and international interested parties. It was also felt that such a novel approach to the discussion would allow ideas to be stretched in new and inventive ways (State Services Commission, 2008a).

In the week that the wiki was accessible and editable to the public, it received more than 5000 visitors with a New Zealand IP address (State Services Commission, 2008b). Interest in the wiki quickly became international, particularly after the BBC picked up the story on its main webpage. The vast majority of hits came as referrals from embedded links in online stories, once the media noticed the story. As a result, posts to the wiki were from a combination of New Zealand and international visitors.

Figure 2: Police Act Review Wiki (5 October 2009)



People were able to participate on the wiki anonymously as there was no registration process for participation. The review team developed and published a set of moderation rules that described the behaviours expected of participants (refer to Appendix C: Police Act Review Wiki Guidelines for more information). The team proceeded to moderate entries on the wiki based on these moderation rules and removed any comments and edits that could be classified as offensive or frivolous. As well as moderation rules, the team provided wiki guidelines to website visitors, which included details on the wiki's purpose. Moreover, the team pointed out on the website that entries could form part of a submission to a parliamentary committee, which would be considered with other information gathered during the consultation period.

Initially, the wiki was accessible 24/7 but after the media reports the speed and quantity of the entries were almost overwhelming; moderating the wiki was a full time job for at least four people. As a result, the review team posted a message on the wiki home page indicating that the wiki would only be available for editing during New Zealand office hours. The team

actively monitored blogs and other communications about the wiki and found out that most people accepted this change in the engagement process.

During the process, the review team perceived the wiki as no different to a traditional, face-to-face public meeting, except that it occurred in a more free form way. Moreover, the team found that the self-moderating nature of the wiki led to input from people outside the circle of traditionally active submitters at public meetings and with different, out-of-the-box thinking.

The wiki was closed for comments on 30 September 2007 and published as a web-based record on 1 October 2007 (New Zealand Police, 2007).

6.4.3. Recordkeeping Conditions & Practices

From the outset of the project, the team acknowledged that they required a robust process to enable efficient responses to Official Information Act requests and questions from the Select Committee, as well as to provide a coherent record showing transparency of the policy decisions. However, at this time, there was limited experience within New Zealand using a wiki to manage public consultations, so the team was unable to obtain advice from others who had managed a similar wiki-based initiative. The SSC and the review team discussed concerns about ownership of content posted to the wiki from two perspectives: recordkeeping and information use. By publishing the wiki guidelines, the team tried to make it as clear as possible to participants what the purpose of the wiki was and that their input could form part of a submission to a parliamentary committee.

The team decided on a uniform records management approach through the three phases. As a result, from day one, the team used the same software that is used by high courts to manage large trials. The review team developed procedures to ‘freeze’ information posted on the wiki. The wiki did not support automatic coding of entries, although all entries did have a unique identifier and were date stamped. To resolve this, the substantial wiki entries that feature in the final online wiki-act were printed and unique identifiers and subject codes were applied to the entries. At this point, the entries were scanned and stored in the electronic repository with all the other submissions. This provided a sequential set of coded items. Optical character recognition (OCR) software was running over the scanned items, providing

an additional mechanism to query the electronic repository. Moreover, the printed wiki content was made available for presentation to the parliamentary Select Committee.

The subject codes that the project team applied to items allowed them to build relationships between all submissions and provide richer responses to questions. For example, the application of subject codes allowed the project team to provide responses such as “in response to your question about the justification for prohibiting police officers becoming councillors, here is the answer to your question but you might also like to look at this and this”.

The electronic repository had a powerful search tool function, which meant that team members could access submissions through free text searches, using the unique identifier or using the subject codes that were applied to each submission.

In addition, the wiki automatically captured all exchanges in a transcript. This provided an auditable record, enhancing public trust and confidence in the process. The wiki transcript includes all 30,000 wiki entries, including those moderated by the review team. The transcript has not been referred to a lot as it includes un-moderated comments. Additionally, a record of each of the wiki chapters was managed separately.

At the end of the process, the review team handed over 35 boxes of documentation to the Records Manager at New Zealand Police, as well as a single disc containing electronic copies of all submissions. The 35 boxes contained the total contents of the two-year process.

6.4.4. Analysis of Recordkeeping Challenges

The capture and management of records created on the wiki required a new set of recordkeeping behaviours, demonstrated by the use of the complex management system, similar to those used by high courts to manage large trials. This was a conscious decision made by the team early in the project as there was a strong awareness for the need for efficient and effective recordkeeping practices.

The Police Act review team identified all electronic items as potential public records prior to the start of the wiki-enabled public consultation process. This meant the team had the advantage of exploring necessary requirements for wiki-enabled recordkeeping ahead of the implementation and management of the public consultation initiative. Thus, the Police Act review team decided to maintain all submissions electronically so that they would manage all submissions in a single electronic repository, while retaining paper copies of all submissions. As a result all records created were captured and managed, while deletion of records was avoided.

While full records were made of the wiki-enabled public consultation activities, the team and with them their organization would struggle to demonstrate that captured records are accurate and provide reliable evidence of the business activity. As wikis support easy modification of content, it was possible to easily change, intentionally or unintentionally, a public record. Moreover, as this wiki did not require registration of participants, the wiki did not automatically capture details on who edited the records, resulting in potential incomplete recordkeeping metadata, e.g. on the author.

Furthermore, characteristics and conditions of the new wiki environment pressed public servants to make new value judgments about recordkeeping, which do not always sit comfortably with existing legislation. For instance, from a PRA point of view, the recordkeeping decision of the Police Act review team to have duplicate copies of all submissions received during the consultation process, including those made on the wiki, leads to ambiguity about which copies need to be managed as the original public records and, therefore, the authoritative source, and which as the duplicates. Another example of a new value judgment on effective recordkeeping is that the Police Act review team decided to make a read-only copy of the wiki publicly available on the Internet for future information and consideration by interested parties.

6.5. Video Conferencing & Instant Messaging at Statistics New Zealand

6.5.1. Background

Statistics New Zealand is the country's major source of official statistics. The agency runs Lotus Notes as its operating system, which provides the agency with instant messaging functionality. The agency also has a comprehensive video conferencing installation.

6.5.2. Implementation

Since 2005, when the Department moved into its new premises, the video conferencing functionality has been available to support collaboration internally. Statistics New Zealand has about 1000 employees, in Wellington, Auckland, and Christchurch, and it is quite common to have teams physically located across these centres. The web-based video conferencing functionality allows staff to facilitate meetings, in an almost face to face environment, without the associated travel costs.

The video conferencing installation includes cameras and audio equipment and will support visual and audio communication through the internet across the three offices, allowing people to participate in meetings when based in different centres. Moreover, PCs in specific meeting rooms are configured with smart boards, which allow staff to project information on to the boards and connected PCs. This way, staff can see the information that is displayed on the boards through their connected PC, providing them with an opportunity to fully interact with the meeting regardless of their office location.

The smart boards are configured with electronic pens and erasers and are touch sensitive, so instead of having to use a mouse to click on buttons, staff can interact with them by writing or touching the screens. In the largest conference room, a second camera has been installed, which is pointed at the presenter rather than just at the room at large. The system is able to change the display on the screen depending on who is speaking. Staff can turn this function off as it is quite sensitive and it can respond to people making unintended noises, such as clicking pens.

The video conferencing functionality is predominantly used for internal meetings. Staff can set them up to communicate with external parties, but they are automatically configured based on the Statistics New Zealand meeting room, requiring a technical change to engage with people externally. The video conferencing installations are also used for training purposes, often with attendees in the same location; this allows the presenter or the connected PC to be projected onto a large screen. Staff can record video conferencing sessions, including interactions on the smart boards. This doesn't happen often, mostly as a result of the huge size of the files that are created. In addition, the software requires that the files are saved into a particular directory. This means if employees want to move the files around, they need to request assistance from the information technology staff.

Furthermore, IM is a standard feature within the Lotus Notes operating system of Statistics New Zealand. Details on a person's presence are integrated into instant messaging and the phone system. This means staff can update the system to say they are attending a meeting for an hour, and the system will inform the operators where they are and the IM status will be updated to show they are away from their desks for the duration of the meeting. IM tends to be used extensively throughout the organisation. It is particularly used for instant responses to quick questions, such as "what do I do about this?" and "where do I find that document?". This can reduce reliance on email and avoids sending emails internally unnecessarily.

6.5.3. Recordkeeping Conditions & Practices

Statistics New Zealand has an internal information management team, which includes records management staff. The team are in the process of implementing an electronic document and records management system (EDRMS). This process has provided the records management staff with an opportunity to raise awareness of the need for appropriate recordkeeping behaviours. The team are also making a concerted effort to train staff on creating effective documentation on their activities, especially those activities relating to statistical surveys.

There is a records management policy, which is ready for ratification by the Statistics New Zealand senior management team. This policy statement is quite high level and includes a definition of records within the organisation. The policy does not include guidelines or procedural information; these are provided to staff separately.

For Statistics New Zealand, the Public Records Act was a significant change from the previous Archives Act, because under the Archives Act a lot of their work was exempt, including all the data collection activities relating to surveys. As a result, until recently, staff considered records to be limited to financial activities, human resources management, or administrative activities – not the information that they create and maintain on a daily basis. However, since the passing of the Public Records Act there is an increased awareness within the organisation that they are dealing with public records. Statistics New Zealand has created their own data archive centre and uses this to archive statistical surveys independent of Archives New Zealand.

The EDRMS implementation is near completion and the majority of employees have access to the system. The records management team recommends that people use the EDRMS to manage records they create or receive. Technically, it is possible to save both digital videos and IM into the EDRMS; however, the process to save them is problematic as the digital videos are stored on a separate server and IT assistance is required to move the video files from the default location that they are created in. To save an IM into the EDRMS, it would first need to be copied to a text file.

Video conferencing meetings can be recorded. The files associated with recorded meetings are stored automatically in an online video conference archive available to all staff. However, in most situations the video conference meetings are not recorded, due to the size of the files. There are some regular external advisory group meetings that are routinely recorded to make sure the minutes are transcribed correctly. These recordings are generally kept for about 6 months. However, in all situations documented meeting minutes are the official records of meetings.

Initially, there were some concerns about people making decisions during meetings using the video conferencing system and then not following up on it, normally due to a lack of documented minutes. However, this behaviour has changed and employees tend to document their discussions either in email messages or using the meeting minutes.

Using meeting minutes provides a useful summary of decisions made in meetings and the records management team expect that the use of minutes will continue to be the authoritative record of meetings, rather than video recordings of meetings. In the most part, employees want access to the decisions of meetings instantly, rather than having to listen through the discussion before they locate the final decision. Reviewing the digital videos themselves would be useful when people want to find out why a decision was made and the background to it, but the digital videos aren't searchable, so employees need to watch them in real time.

There is no policy about identifying the meetings to be recorded or how long they should be retained for. However, as the official record for all video conferencing meetings is the documented meeting minutes, the timeframe to retain the files created during the recording is based on the requirements of the business.

In general, IM tends to be used for ephemeral messages and is not intended to be used as a decision making forum. The recommendation from the records management staff is not to use IM when employees need to make sure that there is a record of the conversation. The advice from the records management staff is that an IM conversation should be treated in the same way as a telephone conversation, where employees create file notes to summarise the discussion and any resulting decisions or actions. Alternatively, people are recommended to confirm what was discussed in an email. It is also possible to copy the IM discussion to a text file and save it into the EDRMS, although this approach can be quite time consuming.

IM conversations are not automatically captured. Therefore, it is the responsibility of individuals to create any required documentation. The records management team estimate that this is happening in the most part as required.

6.5.4. Analysis of Recordkeeping Challenges

At Statistics New Zealand, meeting minutes are used to summarise outcomes of meetings, including those that have been facilitated by video-conferencing technology. With regard to managing IM, staff are recommended to use alternative means if a record of the discussion will be required, otherwise make file notes (the same solution as with a telephone

conversation), confirm what was discussed in an email, or copy the IM discussion to a text file and save into the EDRMS.

The organisation has made a series of decisions whereby the creation of records in both the form of recorded videoconferences and instant messages is avoided: for example recorded video conferences are not regarded as the record of the meeting, the documented meeting minutes are. Similarly, the recommendation from records management staff is to use alternative means rather than IM if a record of the discussion will be required. The use of meeting minutes and file notes as recommended within the organisation align with traditional, paper-based approaches to capture the essence of decisions not already captured in paper form. The records themselves, however, are created and captured within the organisational recordkeeping system and deletion of any records is avoided, thus supporting compliance with legislative requirements according to the PRA.

6.6. Workipedia Wiki

6.6.1. Background

The primary role of the Department of Labour is to improve the performance of the labour market and, through this, strengthen the economy and increase the standard of living for those in New Zealand (Department of Labour, 2009a). The Department employs approximately 1,570 staff based in 23 locations around New Zealand and 16 overseas offices (Department of Labour, 2009a).

Workipedia is an internal wiki managed by the Research and Evaluation team within the Workplace business group from 2008. Workipedia is made up of a set of web pages, or articles, that contain moderated content and use a standard template to ensure a consistent look and feel. Workipedia is a relatively recent initiative within the Department; however, the Department is planning on using Workipedia to:

- inform strategy thinking and the strategic direction of the business group;
- provide a reliable source of knowledge for members of the business group; and
- capture accurate findings and knowledge from the diverse range of research and evaluation conducted within the business group (State Services Commission, 2009b).

6.6.2. Implementation

The Research and Evaluation team in the Workplace business group recognised that there was no ‘business as usual’ collection of collated research and evaluation reference material for the business group. In response to this situation, the team designed a Workplace Report. The objective of this paper-based report was to provide information about New Zealand workplaces from high quality sources, both internal and external to the Department (State Services Commission, 2009b).

However, it was quickly realised that the paper-based report would be too static and too intermittent for the intended audiences, who tended to be managers within the business group. Thus, the Research and Evaluation team investigated the idea of utilising social media applications and agreed that a wiki would be appropriate. The team outlined an initial design

and conducted a trial before they presented a business case to the Workplace Leadership team for approval.

A staff member was engaged to develop the necessary technical environment and build the initial wiki content. The aim was to use simple, low cost technology and to use out of the box technology wherever possible. However, in reality this proved to be more complex and time consuming than initially anticipated, as the available out of the box technology did not provide the functionality that was required.

Although the Workplace Research and Evaluation team operate the wiki, the intention is to provide an extendable wiki platform which the whole organisation could use, or at a minimum the Workplace business group. Therefore, the team have provided each organisational section with a placeholder page on the wiki as a starting point to publish their content. The business groups will be able to generate and shape the content over time.

The wiki automatically captures a full history of all activity on the wiki, including documents and images, edits and all posted comments. The team recognised that not all staff would have the time resources to review the content of the wiki on a regular basis and therefore they designed a PDF document that provides a snapshot of the content of the wiki. The Research and Evaluation team identify a number of key research and evaluation themes annually and highlight any articles that satisfy the information requirements of these key themes for collation into the snapshot document, which is then distributed to interested staff.

The team developing Workipedia referred to the New Zealand Government Web Standards, published by the State Services Commission, but found them difficult to apply as, at the time, the standards tended to refer to public websites of a more static nature. At the time of the case study investigation, the internal Information Technology group were conducting tests on the wiki. Once these were completed, the Research and Evaluation team would formally launch the wiki so that it would be available on the Intranet to all staff within the Department.

6.6.3. Recordkeeping Conditions & Practices

The Department's leadership team approved an organisation-wide records management policy, focused at organisation-wide strategic records management. The policy provides high-level focus and direction towards compliance with the Public Records Act, 2005.

The Department of Labour does not have an enterprise-wide electronic document and records management system (EDRMS). A number of business groups manage electronic information and records within shared drives; others maintain a paper-based recordkeeping environment. The focus for records management staff is to ensure there are basic recordkeeping practices in place, therefore providing a platform for improved recordkeeping across the organisation.

Where business groups develop new IT systems that have document and records implications the recordkeeping staff are involved. For this reason, the records management staff and the team developing the wiki were in contact regarding potential recordkeeping issues in the wiki early in the project. This allowed both teams to explore the potential issues and identify appropriate resolutions. However, a lack of resources and higher work priorities meant that the records management team was not in a position to proactively manage wiki content and had to restrict themselves to provide advice to content owners to manage material in whatever recordkeeping structure they have available, e.g. shared drives, paper-based recordkeeping environment.

When the project first arose, the records management staff contacted Archives New Zealand for advice, however, they found that Archives New Zealand were unable to provide information on the use of wikis to create and capture public records, as wiki technology had not been extensively used within the New Zealand public sector at that time.

Therefore, prior to the launch of Workipedia, the records management staff developed a policy statement on the use of the wiki. The policy is available to all visitors to the wiki and explains the roles and responsibilities associated with managing content created in the wiki. Key points from the wiki policy include:

- The wiki is not intended to duplicate content already published either internally or externally, or content published by external websites.

- The wiki is not to be used for long-term information storage. Wiki pages containing information developed on the wiki need to be managed in the same way as other information relating to the Department's business. The responsibility for this lies with the content authors. They are responsible for managing all the pages they create and edit and for copying or capturing them from the wiki into the appropriate recordkeeping structure every twelve months, or once the project or purpose for the wiki has ceased (whichever is sooner).
- The wiki administrators will take overall curatorial responsibility for wiki content, with assistance from the Records Management team. This will include conducting annual content management audits, which will include whether wiki content has been copied and captured elsewhere.
- While wiki users are responsible for managing the pages they create and edit, the content is owned by the Department, not individual creators, and this content is subject to the Department's records management policy.

In response to feedback from the records management staff, the team were required to alter an automated disposal functionality of the wiki technology. Initially, when content authors deleted wiki content, the system removed the content and permanently deleted it a month later. Without conducting appropriate records appraisal, such an automated disposal function may compromise compliance with the PRA, so the team extended the timeframe for permanent deletion to allow content authors the time to copy or capture the content into the appropriate recordkeeping structure.

6.6.4. Analysis of Recordkeeping Challenges

The use of an internal wiki has required a new approach to recordkeeping, within the existing recordkeeping environment of the Department. The Records Management team was involved early in this initiative, which gave them the opportunity to develop a policy for use of the wiki before it was implemented. This policy says that the wiki is not to be used for long-term storage of information. Content owners are responsible for moving or copying information from the wiki into the records management solution used within their business group, every twelve months or once the project has ceased (whichever is sooner).

In addition to the policy, the RM team ensured some technical changes were made to the set-up of the wiki, so that information was not permanently deleted from the system: this would have been against the law. Therefore, within this case, records are systematically created and captured; they are managed outside of the wiki, but within the organisational recordkeeping systems (dependent on the business group this may be a shared drive, a group EDRMS or paper based) and processes are in place to avoid deleting records without appropriate approval.

6.7. Workplace Productivity YouTube Videos

6.7.1. Background

The purpose of the Workplace Productivity Working Group is to undertake a stock take of how New Zealand is doing in terms of the productivity within workplaces and to identify practical options for how workplace productivity can be improved. The Workplace Productivity Working Group launched the Workplace Productivity website under the umbrella website of the Department of Labour, www.dol.govt.nz. The aim of the Workplace Productivity website is to provide research and tools to assist organisations to increase the value of what they produce by working in more effective and efficient ways. The website contains a series of eighteen case studies from a variety of New Zealand organisations in the private, not-for-profit and state sectors that have made improvements in increasing their productivity (Department of Labour, 2009b). Each case study identifies a productivity challenge to the organisation and outlines the way they achieved improved productivity including key lessons learned that may be used for other workplaces.

To complement the text based case studies, the team produced a series of twenty digital videos that present the case studies in an engaging and informative manner. The digital videos include interviews with key participants in the case studies.

As well as being available on a DVD, to reach maximum audience, the digital videos were made available on the Workplace Productivity website. However, the New Zealand Government Web Standards does not support reliance on Flash video files. This meant that by following government standards, the team could not post any content in flash video files on the website, unless it was available in another format as well.

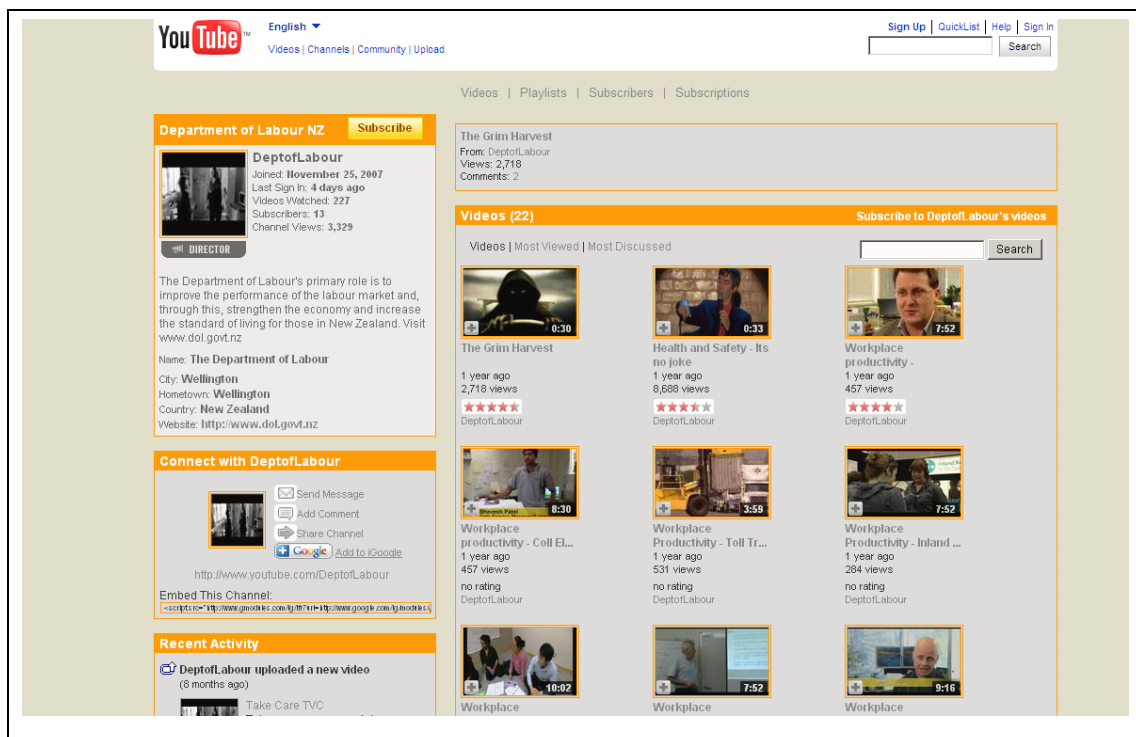
6.7.2. Implementation

To address this issue, the team launched a Department of Labour YouTube channel in 2008 with the primary purpose to share video content with New Zealand business managers interested in improving their workplace productivity (see Figure 3). While using YouTube was seen initially as a temporary measure by the team, it has since been acknowledged to be

an extremely cost effective solution compared to developing an alternative solution internally.

The Department of Labour channel on YouTube also includes copies of the Department's television commercials and it is intended that the channel will grow to include all of the Department's video material.

Figure 3: Workplace Productivity YouTube Channel (5 October 2009)



YouTube is only one communication channel for the Department of Labour and it is recognised that not all of the population have broadband access or technical skills to watch videos online. The team feel it is important to understand the communication perspective (e.g. what is the message, who is our audience, what information do we have about this audience) and on the basis of this understanding, select the most appropriate communication channels.

Uploading the digital videos is managed and conducted by members of the Workplace Productivity Working Group, with support from the Information Technology group where necessary. The team also facilitates the production of the digital videos.

There have been some issues uploading the digital videos onto YouTube. For example, only about half of the digital videos produced by the team are posted on YouTube as some of the files are too large. In addition, particularly for longer digital videos, the time required to upload individual digital videos was initially underestimated. A DVD has been created containing the complete set of case studies and is available through a Workplace Productivity Starter Kit, which organisations are able to request via the website.

Since launching the Workplace Productivity website, the team have found that not all members of the team are able to access the YouTube website at work due to Internet access restrictions set by the IT group. While they are able to raise this separately with the IT group, it has raised a point regarding access to YouTube for the target audience of business managers interested in improving their workplace productivity. For example, the team recently produced a video on working in the Pacific, which is fourteen minutes long and, with that, too long to post on YouTube.

A further challenge related to using YouTube for posting digital videos, is the selection of related content shown on the page. This selection is conducted automatically by YouTube, based on how the content has been tagged. The team had an experience where, after uploading a television commercial onto YouTube, they found that on the second page of related digital videos there was a link to a video that was of questionable nature. They immediately removed the video and informed YouTube of the situation. This raised a significant concern for the team that they could not control what else is shown on the page in relation to the Department's digital videos.

Since launching the channel on the 25th of November 2007 there has been no negative feedback received (State Services Commission, 2009c). In addition, the number of views have been acceptable considering there have not been any proactive attempts to promote the YouTube channel, or any sophisticated search term use offered (State Services Commission, 2009c). The number of views on the Workplace Productivity YouTube videos range from 120 to 1,467 views to date since the digital videos were launched.

6.7.3. Recordkeeping Conditions & Practices

The Department's leadership team approved an organisation-wide records management policy, focused at strategic records management. The policy provides high-level focus and direction towards compliance with the Public Records Act, 2005.

The Department of Labour does not have an enterprise-wide electronic document and records management system (EDRMS). A number of business groups manage electronic information and records within shared drives; others maintain a paper-based recordkeeping environment. The focus for records management staff is to ensure there are basic recordkeeping practices in place, therefore providing a platform for improved recordkeeping across the organisation.

The Records Management team at the Department of Labour were unaware that the team were using YouTube to post digital videos. Moreover, the Workplace Productivity Working Group had not made an effort to engage with the Records Management team. This meant that, based on their personal understandings of the recordkeeping policy and the available technology, the Workplace Productivity Working Group had decided on the most appropriate way to manage the digital videos.

The digital videos are produced by an external design company who provides the Department with the master files. These master files are stored electronically in a shared drive, which is accessible to the team. The structure in the shared drive is managed by the team, in the absence of an organisational electronic document and records management system (EDRMS). This structure has been in place for the last two years.

The technical difficulties to manage and make the digital videos accessible across the organisation introduce further challenges. Without an enterprise-wide recordkeeping system, it is difficult to apply any metadata to the video clips, for example, keywords to enhance the ability to retrieve the digital videos in the future, or recordkeeping metadata to provide the context around the item (e.g. when was it produced, who produced, who were the actors, where is the text based case study located?).

Currently, there is no facility to capture comments made about the digital videos on YouTube. However, minimal comments have been made (10 comments to date across all of the videos) and those that have been made are considered low value, for example “Awesome vid - when we will get to see the next episode, this should be on primetime TV!” and “great hotel - dad used to work there”. These comments are not considered public records.

6.7.4. Analysis of Recordkeeping Challenges Associated with this case

The team did not consider the videos they were posting as business records, nor did they seek advice from the records management team within the organisation. However, based on the internal need to manage the Workplace Productivity information in a single location, from a records management perspective the master video files were stored in the appropriate location within the shared drive, with other workplace documents. On this basis, records were created, captured and managed within an organisational recordkeeping system, and deletion of the video records was avoided; thus complying with the legislative requirements in place. The team applied standard recordkeeping behaviours to the video-based records, according to practices they applied to records created using more familiar technologies, such as word processing files and spreadsheets.

7. Cross Case Analysis

If we consider the research findings across the seven case studies we can observe that the introduction and use of emergent technologies in public sector activities has not led to many new or fundamentally different recordkeeping behaviours compared to traditional public records management. Only in two cases, namely the Police Act Review Wiki and the Workipedia Wiki, we can observe the development and application of a new appreciative setting for public records management; the Police Act Review Wiki experience involved a new set of recordkeeping behaviours, whereas the Workipedia Wiki initiative developed a specific policy together with a technical record keeping solution. To a certain extent, mainly with regard to capturing records created using SMS, also the Fuelled 4 School staff developed and applied new record keeping behaviours.

Interestingly, in the case of the National Warning System, although staff were not even aware of dealing with new electronic records, technical solutions in place (e.g. automatic logging of SMS messages) led to an electronic recordkeeping practice which was different compared to traditional recordkeeping behaviour and in accordance with legal requirements. Besides the case of the National Warning System, the Workplace Productivity case also demonstrates that staff were not aware of dealing with new electronic records and of the need therefore to develop a new appreciative setting towards managing electronic records.

In some cases, there was awareness of dealing with new electronic records but staff decided to apply standard recordkeeping behaviours (e.g. Fuelled 4 School for records created using videos; Statistics New Zealand). At Statistics New Zealand, deliberate recordkeeping decisions had been made at the organisational level to use traditional record management approaches in dealing with recorded videoconferences and IM; these traditional record management approaches have been recommended to staff as alternative means for dealing with information created by these two emergent technologies.

In three cases, all involving the use of a wiki in public sector activities, namely the Digital Strategy 2.0 Wiki, the Police Act Review Wiki, and the Workipedia Wiki, staff were aware that a new approach to recordkeeping was needed and deliberately explored new electronic

records management approaches. In the case of the Digital Strategy 2.0 Wiki, records management staff were not aware of this initiative until quite late in the wiki development process. At that stage, with records management staff having limited experience with wikis, the Digital Strategy 2.0 team found out that, as the intended retention of an electronic copy of the wiki did not meet organisational records management policy, a traditional recordkeeping approach needed to be applied.

In the case of the Police Act Review Wiki, records management staff were not involved in the wiki development or implementation process but the team sought advice from the SSC around the use of wiki software. In the Workikipedia Wiki initiative, the departmental records management team was involved at an early stage, which not only created an opportunity to develop a specific policy for use of the wiki before it was implemented, but also led to some technical changes to the set up of the wiki so that legislative requirements could be met.

Further analysis of the seven case studies highlights the lack of knowledge by project team members of their organisation's recordkeeping policy and their corresponding personal responsibilities, for example, the Digital Strategy 2.0 Wiki and the Workplace Productivity cases. However, all individuals involved in all of the case studies behaved in accordance with legally acknowledged effective recordkeeping behaviours: they created records, filed and kept records while handling them with care, and did not delete any records.

Across the seven case studies, it is interesting to observe that, although cases had similar, legally compliant records management outcomes, the recordkeeping behaviours to arrive at these similar outcomes were usually different. For instance, the Fuelled 4 School team used a third party organisation to maintain the SMS service and downloaded monthly transaction reports, capturing all messages sent and received via SMS. This report was then manually saved into the Ministry of Education's shared drive, which is the Department's recordkeeping system for electronic information. In the case of the National Warning System, the system automatically generated summary reports confirming receipt and non-receipt of messages across multiple technologies, including SMS. This report is then manually saved by the team into the Department's EDRMS. In this circumstance, as all messages sent at any one time are the same, information on the messages sent is abstracted by the system.

However, in several cases we can observe some degree of tension in the application of existing legislation to information created by emergent technologies. For instance, in the case of the Digital Strategy 2.0 Wiki, the integrity and authenticity of the public records is questionable. Similarly, although full records were made of the electronic public consultation activities, the Police Act Review Wiki team would struggle to demonstrate that captured records are accurate and provide reliable evidence of the business activity. Moreover, the Police Act wiki did not automatically capture details on who edited the records, resulting in potential incomplete recordkeeping metadata (e.g. the author). Another tension with the legislation emerges from the recordkeeping decision of the Police Act review team to have duplicate copies of all submissions received during the consultation process, including those made on the wiki, which leads to ambiguity about which copies need to be managed as the original public records and, therefore, the authoritative source.

8. Conclusions and Recommendations

8.1. Conclusions

Government agencies are increasingly using Web 2.0 technologies to conduct and support public activities, such as external engagement, as well as collaboration internally. On the basis of our research we can conclude that the agencies under study more or less have developed their own solutions to emerging recordkeeping issues when using Web 2.0 technologies. In developing their own solutions, agencies tended to apply traditional public records management approaches and behaviours, rather than exploring new approaches, which only happened in a few cases. Moreover, approaches employed by the seven cases investigated in this report were driven by the organisational context, such as staff awareness of the agency's records management policy and responsibilities, the organisational value associated with information created by emergent technologies, the level of technological awareness by staff, and the availability and use of an EDRMS within the organisation.

With the emergence of new recordkeeping practices as a response to dealing with the use of new technologies in public sector activities, our research findings also show that having an organisational records management policy or an EDRM system in place are not sufficient approaches to recordkeeping issues in an increasingly web 2.0-enabled public sector environment; according to our research, further requirements for effective electronic records management include staff awareness of recordkeeping issues, early involvement of records management expertise in a web 2.0-enabled initiative, and an awareness of available technical solutions.

Within each of the case studies investigated in this report, records are identified according to content, but agencies are struggling with some format specific 'fish hooks', especially in the case of applying a wiki but to a minor extent also in deciding on how to effectively capture SMS messages involving business decisions. There is limited advice and practical materials available to New Zealand agencies that outline, for each of these emergent technologies, how to support effective compliance with the legislation.

The processes demonstrated by the case studies to manage records according to legislation and organisational policies tended to be manual and involve significant amounts of migration of the records, e.g. records are moved from system to system, or format to format. This introduces potential risk to the integrity and usability of the records.

8.2. Recommendations

On the basis of the literature review we conducted and the development and analysis of the case studies, including the conclusions outlined above, we have identified the following set of recommendations:.

- 1) More New Zealand based empirical research into electronic public recordkeeping is required to address the lack of knowledge of emerging recordkeeping practices and behaviours. Our research findings point out that, in many respects, there is no one size fits all solution for electronic public records management in Web 2.0-enabled public sector environments in general or related to the use of individual Web 2.0 technologies.
- 2) Cross-government learning opportunities should be increased. Our findings suggest a risk that any lessons learnt from initiatives stay limited within individual teams or organisations.
- 3) In accordance with existing legislation records should be defined and managed according to their content not format; however, format plays a significant part in the approach to manage the records, e.g. can the file type be stored in the organisation's EDRMS? Therefore, some electronic formats (or structures) may require specific guidelines. The information provided should address both procedural aspects (the "soft" aspects like training, policy statements, guidelines) as well as technical aspects. As an example, please see the guidelines and advice the US NARA has made available online (see also section 4.4)

- 4) Technical solutions to emerging recordkeeping issues should be further explored. Moreover, advice on and dissemination of available technical solutions should be further promoted.

- 5) Records managers should be involved at an early stage in any Web 2.0-enabled public sector initiative. This will provide the records manager with an opportunity to investigate possible ways to address recordkeeping requirements, from both a technical and procedural perspective. Technical considerations would include investigation to see whether it is possible to embed recordkeeping functionality into the system; while procedural guidelines would include analysis for a new policy, standard, or guideline and training requirements.

- 6) Advice to manage records created and/or captured in emergent technologies should evolve over time. New technologies and new ways of using existing technologies will be implemented within organisations, which may require new recordkeeping approaches or adjustments to existing practices. Moreover, a learning effect with regard to recordkeeping behaviours and practices around the introduction and use of new technologies should be acknowledged, which raises the need for regular evaluations of existing records management.

9. Bibliography

- ACT Territory Records Office (2007). *Standard for records management number 6: digital records*. from <http://www.legislation.act.gov.au/ni/2007-175/current/pdf/2007-175.pdf>.
- Alberta Government Services (2005). *Managing instant messages*. from <http://www.im.gov.ab.ca/publications/pdf/ManagingInstantMessages.pdf>.
- Allison, G. (2008). Emergence of schools of public policy: Reflections by a founding dean. In M. R. Michael Moran, Robert E. Goodin (Ed.), *The Oxford handbook of public policy* (pp. 58-79). Oxford: Oxford University Press.
- Archives New Zealand (2006). *Fact Sheet 7: Recordkeeping responsibilities*. Retrieved 21 July 2009. from <http://continuum.archives.govt.nz/files/file/factsheets/f7.html>.
- Archives New Zealand (2007). *Annual report 2006 - 2007*. Retrieved 21 July 2009. from www.archives.govt.nz/docs/pdfs/2006_07_annual.pdf.
- Archives Office of Tasmania (2009). *Recordkeeping advice number 4: Managing electronic communications as records*. Retrieved August 17 2009. from http://www.archives.tas.gov.au/legislative/staterecords/advices_list/advice_04.
- Benkler, Y. (2006). *The wealth of networks: how social production transforms markets and freedom*. New Haven: Yale University Press.
- Brogan, B., & Vreugdenburg, S. (2008, 23-24 October). *You've got mail: accountability and end user attitudes to email management*. Paper presented at the 4th International Conference on e-Government (ICEG), RMIT University, Melbourne.
- Department of Labour (2009a). About Us. www.dol.govt.nz Retrieved September 21, 2009, from <http://www.dol.govt.nz/about/index.asp>
- Department of Labour (2009b). Workplace Productivity. www.dol.govt.nz Retrieved September 21, 2009, from <http://www.dol.govt.nz/workplaceproductivity/about/index.asp>
- Goody, J. (1986). *The logic of writing and the organization of society*. Cambridge: Cambridge University Press.
- International Organization of Standardization (2001). ISO 15489-1:2001 Records management *Part 1: General*. Geneva, Switzerland: ISO.
- Klobas, J. (2006). *Wikis: tools for information work and collaboration*. Oxford: Chandos Publishing Limited.
- Leonard, G. S., Wright, K. C., Smith, W. D., Johnston, D. M., & Kidd, A. (2008). *An evaluation and decision making support tool for public notification systems in New Zealand*. Retrieved June 15 2009. from [http://www.mcdem.govt.nz/memwebsite.nsf/Files/Public-alerting/\\$file/GNS-report.pdf](http://www.mcdem.govt.nz/memwebsite.nsf/Files/Public-alerting/$file/GNS-report.pdf).
- Library and Archives Canada (2004). *Guidelines on computer file types, interchange formats and information standards*. Retrieved September 29 2009. from <http://www.collectionscanada.gc.ca/government/products-services/007002-3017-e.html>.
- Library and Archives Canada (2006a). *E-mail management in the Government of Canada*. from www.collectionscanada.ca/information-management/002/007002-3008-e.html.

- Library and Archives Canada (2006b). *Framework for the management of information in the government of Canada: Overview to, and links to legislation, regulations and policies*. Retrieved 21 July 2009. from <http://www.tbs-sct.gc.ca/fmi-cgi/foundation-fondement/leg-reg/leg-reg-eng.pdf>.
- Library and Archives Canada (2006c). *Frequently Asked Questions (FAQs) About Email*. Retrieved 15 July. from <http://www.collectionscanada.gc.ca/government/002/007002-3016-e.html>.
- Lips, M., Rapson, A., & Hooper, T. (2008). *E-mail records management in 21st century New Zealand government*. Wellington: Victoria University of Wellington.
- Lipsky, M. (1980). *Street-level bureaucracy: Dilemmas of the individual in public services*. New York: Russell Sage Foundation.
- Madden, M. (2009, July). The audience for online video sharing-sites shoots up. *Pew Internet and American Life Project* Retrieved October 27, 2009, from <http://www.pewinternet.org/Reports/2009/13--The-Audience-for-Online-VideoSharing-Sites-Shoots-Up.aspx>
- March, J. G. (1988). *Decisions and organizations*. New York: Basil Blackwell.
- McDonald, J. (1995). Managing records in the modern office: taming the wild frontier. *Archivaria*, 39.
- McDonald, J. (2005). The wild frontier ten years on. In J. McLead & C. Hare (Eds.), *Managing electronic records* (pp. 1 - 17). London: Facet Publishing.
- Ministry of Civil Defence and Emergency Management (2008, November). MCDEM e-Bulletin (November 2008) Retrieved June 15, 2009, from http://www.civildefence.govt.nz/memwebsite.NSF/wpg_URL/For-the-CDEM-Sector-E-Bulletin-E-Bulletin-November-2007?OpenDocument#warning
- Ministry of Civil Defence and Emergency Management (2009a, June). Guide to the National Civil Defence Emergency Management Plan v.1.2 Retrieved August 31, 2009, from http://www.civildefence.govt.nz/memwebsite.nsf/wpg_URL/For-the-CDEM-Sector-Publications-The-Guide?OpenDocument
- Ministry of Civil Defence and Emergency Management (2009b, March). MCDEM e-Bulletin (March 2009) Retrieved June 15, 2009, from http://www.civildefence.govt.nz/memwebsite.nsf/wpg_URL/For-the-CDEM-Sector-E-Bulletin-E-Bulletin-Mar09?OpenDocument#nws
- Ministry of Economic Development (2007, May 31). The Digital Future Summit. *Digital Strategy* Retrieved June 29, 2009, from <http://www.digitalstrategy.govt.nz/Resources/Digital-Future-Summit/>
- Ministry of Economic Development (2008, April). Draft Digital Strategy. *Digital Strategy* Retrieved May 19, 2009, from <http://www.digitalstrategy.govt.nz/upload/Draft%20Digital%20Strategy%202.0/MED%2013521%20DS%20Draft%20LR.pdf>
- Ministry of Education (2009). About this site. *Fuelled* Retrieved July 31, 2009, from <http://www.fuelled.co.nz/AboutThisSite.aspx>
- Ministry of Justice UK, & The National Archives UK (2009). *Lord Chancellor's code of practice on the management of records issued under section 46 of the Freedom of Information Act 2000*. Retrieved September 29, 2009.
- Nalley, L., & Zajjek, A. (2005). *The social construction of discretion in public welfare agencies: emerging questions and issues*. Paper presented at the American Sociological Association.

- National Archives and Records Administration (2005). *NARA guidance on managing web records*. from <http://www.archives.gov/records-mgmt/policy/managing-web-records-index.html>.
- National Archives and Records Administration (2007). *Implications of recent web technologies for NARA web guidance*. from <http://www.archives.gov/records-mgmt/initiatives/web-tech.html>.
- National Archives and Records Administration (2008a). *Frequently asked questions (FAQ) about digital audio and video records*. from <http://www.archives.gov/records-mgmt/initiatives/dav-faq.html>.
- National Archives and Records Administration (2008b). *Frequently asked questions about instant messaging*. from <http://www.archives.gov/records-mgmt/initiatives/im-faq.html>.
- National Archives and Records Administration (2009). *Electronic Records Management Initiative*. Retrieved October 20 2009. from <http://www.archives.gov/records-mgmt/initiatives/erm-overview.html>.
- National Archives of Australia (2007a). *Frequently asked questions about mobile devices*. Retrieved September 28 2009. from <http://www.naa.gov.au/records-management/systems/mobile-devices.aspx#section2>.
- National Archives of Australia (2007b). *It is your business! Records management is good business and your business*. Retrieved August 18 2009. from http://www.naa.gov.au/Images/its_your_business_tcm2-8347.pdf.
- National Archives of Australia (2007c). *What is a collaborative space?* Retrieved September 28 2009. from <http://www.naa.gov.au/records-management/systems/collaborative.aspx>.
- New Zealand Police (2007, October 1). *Police Act Review wiki* Retrieved June 29, 2009, from <http://www.policeact.govt.nz/wiki/pmwiki.php/Main/HomePage>
- Northern Territory Archives Service (2004). *Position Statement on Electronic Recordkeeping in the Northern Territory Government*. Retrieved August 17 2009. from http://www.nt.gov.au/nreta/ntas/records/pdf/position_statement_ER.pdf.
- Patton, M. (2002). *Qualitative research and evaluation methods* (3 ed.). California: Sage Publications.
- Pew Internet and American Life Project (2009). *Web 2.0* Retrieved June 15, 2009, from <http://www.pewinternet.org/topics/Web-20.aspx>
- Public Record Office (2001). *Managing web resources: Management of electronic records on websites and intranets*. Retrieved Jan 26 2009. from www.nationalarchives.gov.uk/documents/website_toolkit.pdf
- Public Record Office Victoria (2006). *Messaging technologies and recordkeeping*. Retrieved August 18 2009. from <http://www.prov.vic.gov.au/publications/publins/PROVRMadvice16.pdf>.
- Public Record Office Victoria (2007). *Web-generated records*. Retrieved August 18 2009. from http://www.prov.vic.gov.au/records/Web_Advice/PROVRMAAdvice20a.pdf.
- Queensland State Archives (2006a). *Public records brief: Capturing records of meetings, conversations, text and instant messages*. Retrieved August 17 2009. from <http://www.archives.qld.gov.au/publications/PublicRecordsBriefs/BusinessRecords.pdf>.
- Queensland State Archives (2006b). *Public records brief: Making and keeping records of aerial and video surveillance*. from

<http://www.archives.qld.gov.au/publications/PublicRecordsBriefs/AerialVideoSurveillanceMay2006.pdf>.

Research New Zealand (2009). *Government recordkeeping survey report 2009*. Retrieved 27 July 2009. from

http://continuum.archives.govt.nz/files/Publication_Public_offices_report.pdf.

Seale, C. C. (1999). Quality in qualitative research. *Qualitative Inquiry*, 4, 465-478.

Shepherd, E., & Yeo, G. (2003). *Managing records: a handbook of principles and practice*. London: Facet Publishing.

Simon, H. A. (1976). *Administrative behavior: a study of decision-making processes in administrative organizations* (3 ed.). New York: The Free Press.

Smeaton, A. F. (2007). Techniques used and open challenges to the analysis, indexing and retrieval of digital video. *Information Systems*, 32, 545-559.

State Records Authority of New South Wales (1998). *Policy on electronic messages as records*. Retrieved September 28 2009. from

<http://www.records.nsw.gov.au/recordkeeping/government-recordkeeping-manual/rules/policies/policy-on-electronic-messages-as-records>.

State Records Authority of New South Wales (2005). *Managing the message: guidelines on managing formal and informal communications as records*. Retrieved September 28 2009. from

<http://www.records.nsw.gov.au/recordkeeping/government-recordkeeping-manual/documents/recordkeeping-guidelines/Managing%20message%20Dec%2005.pdf>.

State Records Authority of New South Wales (2007). *Characteristics and functionality of recordkeeping systems*. Retrieved September 28 2009. from

<http://www.records.nsw.gov.au/recordkeeping/dirks/introducing-the-dirks-methodology/characteristics-and-functionality>.

State Records Authority of New South Wales (2008). *Guideline 20: Keeping web records*. Retrieved September 28, 2009. from

<http://www.records.nsw.gov.au/recordkeeping/government-recordkeeping-manual/guidance/guidelines/guideline-20-in-this-guideline>.

State Records Authority of New South Wales (2009). *Guideline No.24: Records management and Web 2.0*. Retrieved September 28 2009. from

<http://www.records.nsw.gov.au/recordkeeping/government-recordkeeping-manual/guidance/guidelines/Guideline-24-Records-management-and-web-2.0>.

State Records Commission of Western Australia (2009). *Guideline: Management of digital records*. Retrieved August 17 2009. from

<http://www.sro.wa.gov.au/government/documents/Guideline-Digital-Records-Final.pdf>.

State Services Commission (2007). Guide to Online Participation. *eParticipation wiki*

Retrieved November 11, 2008, from <http://www.e.govt.nz/policy/participation/online-guide-07.pdf>

State Services Commission (2008a, May 22). Police Act Review wiki. *E-Initiatives*

Retrieved June 29, 2009, from http://initiatives.e.govt.nz/wiki/Police_Act_Review_Wiki_%28Police%29

State Services Commission (2008b, 9 July). Police wiki case study. *eParticipation wiki*

Retrieved 2 February, 2009, from http://wiki.participation.e.govt.nz/wiki/Police_Wiki_Case_Study

- State Services Commission (2009a, April 9). Who Polices the Police Wiki? *In Development Blog* Retrieved June 29, 2009, from <http://blog.e.govt.nz/index.php/2008/04/09/who-polices-the-police-wiki/>
- State Services Commission (2009b, February 5). Workipedia (DoL). *E-Initiatives* Retrieved September 21, 2009, from [http://initiatives.e.govt.nz/wiki/Workipedia_\(DoL\)](http://initiatives.e.govt.nz/wiki/Workipedia_(DoL))
- State Services Commission (2009c). Workplace Productivity (DoL). *E-Initiatives* Retrieved May 12, 2009, from [http://initiatives.e.govt.nz/wiki/Workplace_Productivity_\(DoL\)](http://initiatives.e.govt.nz/wiki/Workplace_Productivity_(DoL))
- Vickers, S. G. (1995). *The art of judgment: A study of policy making*. Thousand Oaks, California: Sage Publications.
- Yin, R. K. (2009). *Case study research : design and methods* California: Sage Publications.

Appendix A: Summary of Advice from Australian Archival Agencies

	Text messages (SMS)	Instant messages	Digital Videos	Wikis	Non technically specific advice
National Archives of Australia	Messages received on mobile or handheld devices that support the business of the agency are records. This is regardless of whether a device is wireless and receives email independently, like a BlackBerry, or needs to be connected to a computer. These messages are subject to the same requirements as email messages received on your desktop computer (National Archives of Australia, 2007a).	If an agency transacts business or receive requests from the public using IM, the exchanges are records that should be saved in the corporate records management system: <ul style="list-style-type: none"> software that can create logs and records of IM conversations, or staff create a note for file and saving it in a records management system (National Archives of Australia, 2007a). 	Not available	If you decide that a record needs to be captured, it needs to be put into an IT system with records management capability. Some collaborative workspaces may have records management capability (National Archives of Australia, 2007c).	
Australian Capital Territory	Not available	Not available	Not available	Not available	All documents, including digital objects, created or received by ACT Government agencies, or an employee, which are evidence of business transactions, are Territory records and must be captured into an agency's recordkeeping system (ACT Territory Records Office, 2007, p. 3)
Archives Office of Tasmania	Not available	Procedural Advice: policy and business rules should be developed directing staff to make a file note or other record of IM messages (Archives Office of Tasmania, 2009, p. 7).	Procedural Advice: File notes of video conferences should be made and call history logs retained in the Agency's recordkeeping system (Archives Office of Tasmania, 2009, p. 7).	Generic Advice: When agencies use collaborative workspaces they must monitor the content and record business in accordance with business and legal requirements (Archives Office of Tasmania, 2009, p. 8).	
Northern Territory Archives Service	Not available	Not available	Not available	Not available	Electronic records should be managed effectively as part of a comprehensive records management program (Northern Territory Archives Service, 2004, p. 4)
Public Record Office Victoria	Procedural and Technical Advice: In lieu of a technical method to capture IM or SMS data agencies might instruct staff to create file notes of conversations (Public Record Office Victoria, 2006, p. 20)Some third-party messaging programs can offer an integrated record function,		Not available	Generic Advice: Web records should become a seamless part of an agency's overall recordkeeping system and integrated into the	

	including the ability to link directly into EDRMS. In addition some messaging programs are beginning to provide archiving capacities (Public Record Office Victoria, 2006, pp. 16-17)			EDRMS (Public Record Office Victoria, 2007, p. 18)	
Queensland State Archives	Procedural Advice: Agencies can create public records by making and filing a record of any relevant text messages (Queensland State Archives, 2006a, p. 2).	Procedural Advice: <ul style="list-style-type: none"> Incorporate electronic files of instant message into a recordkeeping systems, or Create a file note of the IM conversation. (Queensland State Archives, 2006a, p. 2).	Procedural & Technical Advice: Surveillance videos should be stored as electronic objects within electronic recordkeeping systems. Alternatively, surveillance records can be securely stored and a related paper file created (Queensland State Archives, 2006b, p. 1).		
State Records Authority of New South Wales³	Procedural & Technical Advice: Electronic messages required as evidence of business activity should be captured into an electronic recordkeeping system. Other options are: <ul style="list-style-type: none"> recordkeeping functionality can be built into the electronic messaging system messages, with appropriate contextual detail, can be printed or transcribed and filed into a paper recordkeeping system (State Records Authority of New South Wales, 1998, p. 4) 	Procedural Advice: If business decisions are being made in instant-messaging systems, then use policy or business rules to direct staff to make a file note or other record of the messages (State Records Authority of New South Wales, 2005, p. 4).	Technical Advice: Recordkeeping systems should be capable of managing records in any form, including video clips (State Records Authority of New South Wales, 2007).	Procedural & Technical Advice for web-based records: Automated capture: This involves the automated capture of web pages as they are published, linking web content management systems with a recordkeeping system. or Manual Capture: Users select content to be captured into an EDRMS (State Records Authority of New South Wales, 2008).	The advice available for the management of web 2.0 records is continually evolving (State Records Authority of New South Wales, 2009, p. 12).
State Records Commission of Western Australia	Not available	Not available	Not available	Not available	<ul style="list-style-type: none"> Capture electronic documents in an EDRMS, or Integrate business systems with recordkeeping systems or build recordkeeping functionality into business systems, or Where no electronic means of capture is possible, print and file documents.

³ Note: The State Records Authority of New South Wales has published extensively on the topic of digital records and Web 2.0, including standards, guidelines, policies, and a blog (<http://futureproof.records.nsw.gov.au/>). Only a brief overview of this information is rendered here, specifically related to Text Messages, Instant Messages, Videos and Wikis.

					(State Records Commission of Western Australia, 2009)
State Records of South Australia	Not available	Not available	Not available	Not available	It is generally considered that electronic records, like their paper-based counterparts, will be managed in accordance with the Adequate Records Management Framework (State Records Authority of New South Wales, 2009).

Appendix B: Digital Strategy 2.0 Questions (Ministry of Economic Development, 2008, pp. 48-49)

On Connection

- What do you think of the new connection goal – is it ambitious enough?
- What other key priorities in this focus area (if any) would you like to see considered?
- How well do the identified challenges and actions contribute to achieving the priorities?
- What other specific challenges and actions (if any) do you think should be considered?
- By whom and by when?

On Confidence

- What do you think of the new confidence goal – is it ambitious enough?
- What other key priorities in this focus area (if any) would you like to see considered?
- How well do the identified challenges and actions contribute to achieving the priorities?
- What other specific challenges and actions (if any) do you think should be considered?
- By whom and by when?

On Content

- What do you think of the new content goal – is it ambitious enough?
- What other key priorities in this focus area (if any) would you like to see considered?
- How well do the identified challenges and actions contribute to achieving the priorities?
- What other specific challenges and actions (if any) do you think should be considered?
- By whom and by when?

On Collaboration

- How important do you think collaboration across sectors is to achieving our digital potential?
- Apart from the ones already identified, what other collaboration partners or sectors (if any) are vital to achieving our digital potential?

- What unique contribution do you see for Māori, for communities, for business groups, for local government, for researchers or for other contributors you identify as having a key role?
- What would you like to see the overarching sector forum focus its work programme on?

On Achieving our Digital Potential

- Using digital technology, what contribution will you make to improving our productivity (achieving a creative, knowledge-based, high-income economy)?
- Using digital technology, what contribution will you make to enriching and valuing New Zealand communities and cultures, and promoting our unique national identity?
- Using digital technology, what contribution will you make to achieving sustainable growth as a nation?
- What contribution do you think others need to make to achieve our digital potential?

Other comments

- Do you have any further suggestions or comments?

Appendix C: Police Act Review Wiki Guidelines (New Zealand Police, 2007)

This wiki is moderated by the Police Act Review Team. The views of commenters participating in this wiki do not necessarily represent the views of the Police Act Review Team or New Zealand Police. Staff will be monitoring the input and may participate or intervene, as appropriate.

Good behaviour

Always provide a short summary note to explain what you have changed. This will allow others to quickly get an idea of what you have done.

It is fine to reformulate, elaborate, complement, etc.; to revise an oversimplified or overly general statement; and of course to add material you consider relevant.

You may also want to restructure content: If a page grows long, you may consider moving a section into its own page, and to link to that new page from the old one. Please do mention such restructuring in the page history note.

Bad behaviour

Please keep in mind that the Police Act Review Team will not tolerate comments that are offensive to an individual or an organisation, rude in tone, or abusive. We also reserve the right to edit or refuse comments that meet any of the following conditions:

- racist, hateful, sexist, homophobic, slanderous, insulting, or life-threatening messages
- serious, unproven or inaccurate accusations against individuals or organisations
- aggressive, coarse, violent, obscene, or pornographic comments
- messages where the sender is not the author
- messages for advertising purposes
- announcements from commercial or political organisations
- messages written in a language other than English or Māori

- unintelligible or irrelevant messages, and
- any other message that the forum moderators feel will not add to the normal flow of debate.

To protect your own privacy and the privacy of others, please do not include phone numbers or email addresses in the body of your comment. In the case of ongoing investigations or legal proceedings, we will not be able to comment.