Information and records management systems and the impact of information culture on the management of public information

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CHAPTER 3. RELATED RESEARCH

This chapter presents research that is related to the questions that this thesis investigated and answers the following research question:

RQ 1. What is known in the literature about the research problems studied in the thesis?

By addressing the above question the chapter gives an overview of research that relates to the subject of the study from the perspectives of e-Government development, records management, Enterprise Content Management (ECM) and information culture. The overview is based on a comprehensive literature review of articles in peer-reviewed journals, reports, theses, and practitioner literature covering information and records management issues. Information management is of paramount importance to e-Government development because e-Government is about the effective use of information and information technology to improve service delivery.

3.1 E-Government

E-Government has at its core the use of information technology and information. It aims to improve the performance of government institutions. Andersen (2006) argued that e-Government is driven by policy goals of increased effectiveness, efficiency, and information quality, improved interaction mechanisms, and in turn better governance tools. Andersen’s research identified as of key concern among others, security regarding wireless email and the minimisation of data loss. Scholl (2006) who carried out research on the issue of sourcing for electronic government posited that some scholars see e-Government as a redefinition of information management in government with a strong institutional impact. He explored the issue of sourcing and its impact on governments’ information management capacity and organizational capabilities. Scholl emphasized the need to understand e-Government related sourcing and its integration with traditional public management information systems.

Richard (1999) conducted research on e-Government in the information age and argued that before the Internet can be used as an information highway that will harness the general public’s opinion in policy development processes, information needs to be co-ordinated. She posited that citizens expect some degree of homogeneity in government information and that government departments need
to think horizontally and to standardize their information package in order to meet the citizens’ demands and expectations.

Reffat (2003) who looked at components that lead to successful e-Government development contended that the challenges that need to be taken into account include information management skills. He expressed the fact that information management skills are crucial to the treatment of information as a valuable resource. Information skills from different disciplines are a necessity in managing information content, quality, format, storage, transmission, accessibility, usability, security and preservation.

Melin & Axelsson (2009) used two inter-organizational e-service projects as case studies and looked at some of the critical factors concerning e-Government development. These constitute information and data management, the IT as an artefact, organization and managerial issues, legal and regulatory preconditions and the overall institutional and environmental aspect and lack of organizational co-operation. Like Reffat (2003) the aim of their research was to contribute to a better understanding of the progress, success and failure in e-Government development. Grundén (2009) tackled the fact that there was too much focus on the technical aspects of e-Government and contributed to an increased understanding of its social aspects. She carried out a longitudinal study of implementation of e-Government at a Swedish County Administration. The results of her studies indicated that important implementation aspects of e-Government were closely interrelated with different social consequences. She concluded that there is increased focus by management on efficiency which made other goals secondary. The secondary goals meant the quality of services to clients and the work situation of the employees.

Jaeger and Thompson (2003) explored e-Government development around the world and argued that the biggest concerns are not only technical. There are policy issues like co-ordination, collaboration between agency leaders and agency-oriented thinking which hinder a focus on overall goals and lack of communication. They further identified the management of electronic records as one of the future e-Government challenges. The same line of thought was pursued by Lazer & Binz-Scharf (2004) who examined the business model required for the successful implementation of e-Government and argued that the traditional hierarchical and “silo” model of management would cause total failure to e-Government projects. Sarikas’ & Weerakkody’s (2007) research also put emphasis on the need to integrate processes and information systems to replace the inefficient and bureaucratic business ones. Stemberger & Indihar (2007) further emphasized the need to change business processes, organizational structures and the management of information systems if e-Government is to be successfully implemented. Weerakkody, Baire & Choudrie (2006) confirmed that e-Government
implementations present challenges. They were of the view that e-Government will require process and information systems integration and harmonization between disparate organizations.

Sundberg (2006) who carried out research on the problems in e-service development in Swedish public organizations confirmed that e-Government means change in the way public authorities deliver services to the citizens and a re-design of ordinary ways of doing business. In 2010 Aydinli, Brinkkemper & Ravesteyn (2010) pursued research in a government department in the Netherlands and concluded that business process engineering consisting of enterprise information architecture, business process management, management control and knowledge management are crucial factors in understanding the problems that e-Government implementation present in the digital environment. They argued that back-office processes need to be re-designed if effective service delivery is to be achieved.

Kaurahalme, Syväjärvi and Stenvall (2011) used a novel framework to assess the strategic maturity of public information management in Finnish municipalities. They identified four maturity stages of information, which is a support function, a constituent function, a core function and an innovation driver. They concluded that public information management is the missing link between e-Government policy research and e-Goverment as technology applications domain. The Finnish municipalities that were subjects of their research acknowledged the central role information plays in e-Government development. They further posited that e-Government development requires overcoming the challenge of public information management.

The research reviewed above emphasizes the fact that successful e-Government implementation has to be built on business process engineering, effective information management and change in organizational structures and behaviour.

### 3.2 Records Management

There is a lot of research that has been generated on records management as presented in this section. In (2005) Sundberg & Wallin looked at how information, IT strategies and processes have to integrate with e-service processes. They were of the view that the development of new information technologies and organizational forms require the integration of records management. They emphasized the fact that combined, complex and automated e-services and inter-departmental cooperation will necessitate the establishment of methods and systems, to guarantee compatibility and the usage of electronic records. Mnjama and Wamukoya (2007) carried out a literature review on ICT, records management and e-governance. They argued that in order for a country to assess whether it is ready to manage e-
records, it has to examine the legal and regulatory framework, the physical infrastructure, procedures for collecting, processing, storing and disseminating e-records, staffing and training levels, long-term preservation and the accessibility of the records. They concluded that even though many governments have tools and procedures for managing paper records, electronic records and digital images management is still lacking.

Harries (2009) wrote about managing records, making knowledge and good governance and argued that many organizations are reconfiguring their traditional records management functions and incorporating them within a broader context of information management, knowledge management, or customer relationship management. The University of Northumbria under the leadership of Prof. Julie McLeod in 2007 – 2010, conducted a project entitled “The AC+erm Project.” The project focused on designing an organization-centred architecture from three perspectives:

a) people, including vision, awareness, culture, drivers and barriers,
b) working practices including processes, procedures, policies and standards;
c) technology in terms of the design principles for delivering effective recordkeeping (McLeod, Childs, & Hardiman, 2010).

The findings of the project confirmed that few organizations have an articulated vision for electronic records management, records professionals’ demands were sometimes unrealistic or too constraining, people issues were predominant, fundamental and challenging and they concerned culture, philosophical attitudes, awareness of records management and electronic records management issues, knowledge and skills. The project concluded that there are few published in-depth critical case studies of success or failure, or post implementation evaluation of electronic records management projects. However, records management principles appear to be applicable to electronic records management, but that practice needs to be adapted (McLeod et al., 2010). Some of McLeod et. al’s findings were further confirmed by research that was pursued by Anderson, Borglund & Sundqvist (2009) who carried out a study of a project that was being conducted by the Swedish National Rail Administration. They also concluded that information that is created during the conduct of a project is not easily accessible and transparent neither for the entire organization nor for the general public entitled to access. They argued that, knowledge transfer and re-use are hindered due to lack of effective information management.

Meijer (2003) used government organizations as case studies to explore the relations between ICTs, authentic records and accountability. He concluded that there are no technological or organizational safeguards for the preservation of
authentic digital records. He contended that norms, values and cognitive scripts regarding recordkeeping in public organizations create safeguards for the preservation of authentic digital records. He emphasized the need to create integral arrangements of technological, organizational and institutional safeguards. Asproth (2007) investigated Swedish government departments and how they handle records for short and long-term. She argued that issues of long-term preservation are technical, legal and organizational and require the capture of the context and metadata. Her research revealed that information and records were being preserved without appraisal and the printing of digital information on paper was being used as a long-term preservation strategy. She concluded that web service technologies have enabled the development of internet based applications which facilitate the integration of disparate systems and processes owned by different organizations but since this is a dynamic environment they do not only bring advantages but challenges of responsibilities (Asproth, 2007).

One way to safeguard digital records is to manage them in Electronic Records Management systems that meet requirements for maintaining authentic records. Borglund’s research addressed the issue of achieving high quality in recordkeeping systems. High quality means the maintenance of digital records’ reliability and authenticity. His research resulted in a predictive model for attaining quality in records management. He argued that records are a subset of information and proposed a model to help with the design of information systems if they are to be considered as recordkeeping systems. Borglund’s research highlighted the fact that a proactive approach is crucial to the effective management of reliable and authentic records and confirmed that this is a belief embedded in the Records Continuum Model (Borglund, 2006).

Daum (2007) argued that in organizations where employees manage records in an ad-hoc manner and use technologies not suitable for reinforcing good records management practices, there is a risk for lost productivity and increased storage and maintenance costs. She advocated the need to create awareness among all staff members, training and the implementation of user-friendly technologies that would motivate the staff members to leave their personal embedded practices that do not promote good records management and the department silos, in order to achieve enterprise-wide records management. She posited that evolving records management culture requires policy development. The purpose of the records management policy is to assign accountability to the appropriate level of staff.

Duranti & Preston (2008) who were involved in the International Research on Permanent Authentic Records in Electronic Systems (InterPARES 2) research into electronic records creation and use, stated that the context under which records creators operate today is collaborative and records creation is therefore distributed. This environment requires the maintenance of reliable and authentic records.
Information systems need to be trustworthy to enhance public trust and the public bodies’ accountability (Duranti & Preston, 2008).

Shepherd, Stevenson & Flinn, (2011) investigated how well records management services delivered by English local authorities coped with the Freedom of Information implementation. Local government authorities were particularly chosen because of their documented weaknesses in records management. They argued that in a good majority of cases, local government authorities lacked a corporate records management system. The study was based on interviews and the data that was gathered showed variation in compliance. However, the researchers found it difficult to establish the role records management played in promoting access. This was particularly because information was supplied from current information resources that had not been classified as records or in records management systems.

The deluge of information that organizations have to manage and preserve calls for the identification of the users of information in order to give a return on storage investments and to promote re-use and the right to access information. Sundqvist (2009) therefore addressed the issue of search processes, user behaviour and archival representational systems. Sundqvist conducted research in two Swedish public organizations; a municipality and a governmental agency. She dealt with the issue of use and users of records, search and access to records from an archives and information science perspective. She argued that recordkeeping practice creates representations and that this process involves selection, classification, highlighting and ignoring parts of the objects represented. Sundqvist’s research makes a contribution to understanding the information seeker’s behaviour, an aspect that is relevant as organizations endeavour to capture and preserve information and records.

James (2010) looked at records management in the cloud and was of the view that in the digital world, transparency rather than protection is more emphasized and hence the re-use of data other than storage. He concluded that records management will be use-based rather than store-based. Versace (2010) who published a short article on a website called Wikibon, which is a professional community collaboration with an aim to solve business and technology problems through open source sharing of free advisory knowledge, argued that the focus on information governance has reinvigorated the interest in records management, the profession of records management and the value of records. He contended that organizations need to go back to the basics of records management in order to cope with the proliferating information assets. He postulated that there is need to understand the distinction between content management and records management. This is because the basics of records management constitute accountability, integrity, protection, compliance, availability, retention, disposition
and transparency. This makes records management different from content management.

Castillo-Soto and Baker (2011) carried out research in a department of education and looked at the challenges it faced in managing information. Through interviews and document consultation they established the reality behind the implementation of an information work platform and concluded that their case studies highlighted the need to share best practice and collaboration in order to achieve positive change in information and records management.

Dikopoulou and Mihiotis, (2012) pursued research on the relationship between records management, accountable and efficient governance. They argued that specific training by records management professions would be useful to public servants. They were of the view that good governance, information security and records management are deeply connected. They furthermore argued against the view that considers archives to be a cultural thesaurus. They concluded that the management of the public sector has to be made aware of the cost effectiveness that good records management regimes deliver, and emphasized the need to involve records management professionals in the legislative, planning and operating work of information management. Governments have to implement comprehensive strategies for records and archives management.

Ngoebe and Ngulube (2013) explored the role of records management in corporate governance in South Africa. Their study confirmed that records management was not a prioritized function and that even when government bodies establish audit units and committees, records management personnel are often left out. They argued that a better integration of records management as a function would promote good corporate governance.

The research reviewed above confirms that despite technological advancements and existing research, organizations still face records management challenges. Records management is not yet well integrated with the rest of the business processes in an organization and in a manner that delivers business efficiency. There is an emphasized need for records management knowledge and skills and the crucial need for records management to become use-based rather than storage-based. Stored information needs to be re-used in order to give a return on investment regarding the costs involved in its management.

### 3.3 Enterprise Content Management

The increase in the amount of information that organizations need to manage has led to new information management constructs like Enterprise Content Management (ECM). Smith and McKeen (2003) stated that ECM is an emerging concept that academics, managers and vendors are trying to understand through
research. They examined the scope of the challenges facing companies, the reasons why organizations feel it is important to have an ECM strategy, and looked at the wide variety of activities involved in effective content stewardship and the key information governance issues that must be resolved. They concluded that organizations are still grappling with understanding what ECM involves and that ECM is at the edge of knowledge management.

Nordheim & Päivärinta argued that there is lack of empirical research on the customization of ECM systems. They in addition criticized the fact that ECM research has ignored the organizational point of view of content and has focused on the promotion and analysis of technical functionalities (Nordheim & Päivärinta, 2004). Vom Brocke and Simons (2008) argued that ECM is an emerging concept within the information systems discipline. They were of the view that ECM offers the means that enable organizations to deal with their digital assets but that this is not without obstacles. They therefore recommended a thorough analysis of the content situation of an organization before implementation. They lamented the fact that guidelines for content analysis within the ECM literature are rare. They proposed a process model for analyzing content. Their model comprises of five application phases, namely: the definition of an application area (I); the identification of content assets (II); the definition of content attributes (III) and attribute values (IV); and the classification of content types (V). The model also provides methodical support for each of the phases.

Blair (2004) discussed the increasing importance of ECM and how it is helping organizations to have control over their content and hence meeting their business goals and legal needs. He argued that the need for organizations to have control over their digital content needs is being driven by laws, regulations and directives governing information management like the Sarbanes-Oxley. Further, it is driven by the need to make digital information assets accessible and usable in a way that would improve efficiency.

Tyrväinen, Päivärinta, Salminen & Livari (2006) characterized the evolving research on ECM and they were of the view that it has received little attention from the information systems community. They also came up with a framework which covers content, technology, enterprise and process. They postulated that, “ECM research from the enterprise perspective is very limited, consisting mostly of early conceptual and theoretical recommendations and a limited set of empirical studies” (Tyrväinen et al., 2006, p. 630). They posited that much of the ECM research focuses on its role in the communication processes of an enterprise.

Perry and Lancaster (2002) and the Butler Group (2003) examined enterprise content developments and argued that document management, web content management and digital asset management represent the three most known categories of information management solutions. These three categories have
converged to form the broader enterprise content management category. Information management technologies like Document Management (DM), Web Content Management (WCM), Enterprise portals and Knowledge Management (KM) have created a framework to manage both structured and unstructured enterprise information.

Päivärinta and Munkvold (2005) carried out an analysis of 58 cases on ECM implementation and they argued that ECM solutions require a lot of technological and socio-organizational competence and change management. This ought to be on a continuous and evolutionary process as organizations, markets and technology change. They stated that the rationale behind ECM is driven by the global collaboration needs of an organization’s employees, customers and partners through digital information content. The maintenance of ECM in an ever-changing information technology requires co-ordinated change management. They encouraged further research in order to create a better understanding of ECM and the enterprise wide management of the digital assets. They stressed the fact that ECM does not represent anything new compared to established constructs of information management such as information resource management (IRM), electronic document management (EDM) and knowledge management (KM) (Päivärinta & Munkvold, 2005).

Inverson & Burkart (2007) contended that information, knowledge and other content types are important assets of an organization. They presented a model for evaluating the impact ECM systems could have on an organization. They further warned against the over-commodification and dehumanization of work processes through automation. The same year Borglund (2007) explored the concept of Electronic Document Management and Enterprise Content Management. He argued that these concepts are being promoted by commercial actors as a solution to information management issues but that they address the same issues that the Archives and Information Science discipline has been grappling with for years. He examined whether the EDM and ECM systems live up to the requirements of authenticity, reliability, the maintenance of records as evidence and their context and concluded that, they do have weaknesses. He further argued that the solution to information management challenges is not in the deployment of a single system but rather an embracement of the archives and information science methods and the established standards.

Vom Brocke et al. (2008) explored the relationship between ECM and Business Process Management. They posited that the border between these two concepts is blurring and that they both affect each other. They argued that information systems researchers have not paid much attention to the developments in ECM despite its growth. They also concluded that the impact of content on the management of business processes is unexplored. Their research focused on two
cases studies that established the challenges that are driving ECM implementation from a process perspective. These include: recreation of existing content, inappropriate re-use of content, poor information quality, reducing paper based processes and capturing externally created content.

MacMillan & Huff (2009) and Rockley, Kostur & Manning (2003) addressed the importance of knowledge management in modern organizations. They argued that there are links between ECM and knowledge management. ECM implementation within organizations is underpinned by the idea and practice of information sharing. This enhances knowledge capture and knowledge transfer. Macmillan & Huff (2009) emphasized system integration to eliminate information silos since information can be readily accessed, and Rockley et al. (2003) devoted considerable attention to the importance of avoiding information silos. Rockley et. al. discussed the issues of creating a unified content repository. They contended that the need to manage content in a manner that will make it accessible to the people who need it in the right format is crucial to serving business needs. They further argued that a unified content management strategy rids organizations of the content ‘silo’ traps which are usually a result of lack of knowledge of on-going activities within the organization, time and inconsistent amounts of information. This results into high maintenance costs for content (Rockley et al., 2003).

Sprehe (2005) presented three cases studies that demonstrated the benefits of electronic records management to non-records management functions within the context of content management systems. He concluded that an electronic records management system that is part of ECM maintains information resources that are reliable, usable, authentic and with integrity. Butler Group (2003) a leading provider of information technology research, analysis and advice, identified the reasons below as answers to why developments around content management have arisen:

- Increased volume of content which organizations must manage;
- Increased regulations and standards that require organizations to manage their content better;
- The need to track content to cater for organizational needs
- The global nature of e-business;
- Mobile and remote working that requires that employees access information regardless of where they are and by what medium;
- The fact that organizations now recognize the monetary implications of re-using and re-purposing content;
- The value of content is more tangible and some organizations have started charging for it; and
- Protection of the environment by less use of paper and scarce resources.
The importance of enterprise architecture (EA) in helping different technologies in an organization to fit is highlighted by Glazer et al. (Glazer et al., 2005). EA facilitates the effective deployment of information systems, requires and enables good decision making processes when it comes to the procurement of new systems (Johnson & Ekstedt, 2007). EA models include applications, business processes, information and the technical infrastructure. EA enables organizations to understand the impact of technology investments on overall operations as well as assisting them with legislative compliance (Johnson & Ekstedt, 2007).

Munkvold et al. (2006) carried out research based on a Norwegian oil company. The research enabled them to establish the rationale behind ECM implementation, which is to achieve effective and efficient e-collaboration. Hockman (2009) argued that collaboration is central to ECM and that it is about openness and knowledge sharing. According to Hockman, collaboration further involves:

- Awareness of documents that are shared between departments;
- Communicating internal knowledge and experience;
- Coming up with common search terminology that will be meaningful to different departments as indexing terms;
- A shared vision for process improvement; and
- Input from every department to encourage buy-in.

In (2008) Andersen analyzed the key issues driving ECM and problematized the rhetoric that technology vendors use to sell ECM solutions to business leaders. Her focus was on technical communicators who are having their applications supplanted by ECM solutions and yet, they are not participating in the bigger ECM discourse. She postulated that technical communicators need to directly participate in the ECM discourse in order to shift the rhetoric to a more structured ECM debate that will shape the field of technical communication. She was of the view that even though ECM streamlines information development and communication processes its solutions do not necessarily lead to improved information products and communications. This is because the needs of producers and consumers of information are subordinated to the process of information development and communication.

Since ECM is about the effective capture of all an organization’s information resources, long-term preservation of information of enduring value ought to be planned for. Korb & Strodl (2010) carried out a gap analysis between ECM and OAIS. OAIS stands for Open Archival Information System reference model upon which the architecture of archival and preservation repositories are built (Bantin, 2008). They conclude that even though the functionality for an OAIS model already exists in ECM systems, much of what is needed to be truly long-term complaint is still missing. Previous research on ECM highlights the salient issues to the
management of content. Zardin, Mola and Rossignoli (2011) used action research and analyzed ECM systems that manage enterprise knowledge. They further investigated the extent to which such technologies improve the efficiency and decision-making processes. They concluded that ECM systems optimize information management and hence perfect decision-making processes. They however argued that few ECM studies consider the impact ECM technologies have on company processes. They stated that no research highlights the strategic role of content in enhancing knowledge and improving the decision-making process speed. Haug (2012) pursued research on the implementation of ECM solutions in SMEs. His intention was to generate insights in how SMEs could successfully implement an ECM solution and to also define a model for ECM implementation. The same year Katuu (2012) concluded that during the eight years of ECM implementation in South African institutions, the predominant ECM application modules used were records management, document management and imaging. He contended that additional research is needed to assess proprietary and non-proprietary applications.

Alalwan and Weistroffer (2012) endeavoured to provide a comprehensive literature review on ECM research, a conceptual framework of areas concerning ECM and an agenda for future research. They identified 91 ECM research papers and concluded that the current ECM research is divided into three structural pillars: the system component dimensions, system lifecycle and strategic managerial aspects. The first pillar is about tools, strategy, processes and people. The second pillar is the enterprise life cycle that is, adoption, acquisition, evolution and evaluation and the third pillar is the strategic aspect and involves change management and commitment. They confirmed that ECM involves technical, social, organizational and business aspects.

Vom Brocke and Simons (2014) brought together different perspectives of ECM in information systems research and hence consolidated knowledge on how organizations ought to manage their digital assets. They argued that while ECM systems promise to increase and to maintain information quality, streamline content-related business processes and to track the lifecycle of information, their implementation still poses several challenges.

The research on Enterprise Content Management confirms that it is a new field that organizations are still trying to understand. Though it focuses on the management of unstructured content, it takes up different aspects of information such as knowledge management, change management, collaboration, business process management, system integration, enterprise architecture, the life cycle management of information and the fact that ECM systems still lack in managing information for long-term.
3.4 Information Culture

The database searches on information culture in Google Scholar, Emerald, Science Direct, and Libris, the Swedish library system gave hits on many articles discussing organizational culture in relation to information systems implementation (Enrique, Llopis, González, & Gascó, 2001; Indeje & Zheng, 2010; McGrawth, 2003) and other organizational aspects. Very few articles address information culture as a concept. Some of the early studies on information culture were conducted by Ginman (1987) in (Grimshaw, 1995). In (1993) Ginman wondered how access and utilization of information could be improved to lead to successful business. She argued that the answer could be found in identifying the characteristics of mature information cultures and implementing them according to the needs of the organization. In 1995 an empirical study was carried out in collaboration with the British Library Research and Development Department to determine whether there was a correlation between information culture and business success (Grimshaw, 1995). The study confirmed that human information activities give organizations a competitive edge. It furthermore posited that the quality and value of information, its sources, management and communication were critical to the success of an organization.

Davenport like Grimshaw emphasized a human-centered approach to information management. He argued that a lot of focus has been put on information technology and yet, better computers and communication networks do not necessarily lead to better information environments. He instead proposed the term “information ecology” which puts a narrow focus on technology but addresses the way people create, distribute, understand, and use information. Davenport, defined ecology as a “holistic management of information” or “human-centered information management” (Davenport, 1997, p. 11). He postulated that this kind of thinking puts humans at the centre of the information world and technology on the periphery. He believed that ecological approaches to information management are more modest, behavioral and practical compared to the grand designs of information architecture and machine engineering.

In 1998 Höglund conducted a case study of information behavior in a pharmaceutical company. He argued that even though literature on organizational culture is growing, there is little use of the concept “information culture.” He defined information culture as part of corporate culture and concluded that a corporate culture that emphasizes information issues is related to positive company performance.

Widen-Wulff (2000) conducted a qualitative study that reviewed information cultures in 15 Finnish insurance companies. She also pursued an argument similar to Höglund’s that information culture is intertwined with organizational culture. She highlighted the correlation between a rich information culture and successful
business performance, as demonstrated in Grimshaw’s study. Widén-Wulff was concerned with the internal information flow and how a rich information culture and functioning knowledge creation connect to successful performance. She contended that information culture is about information systems, common knowledge, and individual information systems in form of attitudes and information ethics. She concluded that the organizations she reviewed were aware of the importance of information, but argued that it was the most difficult asset to manage (Widén-Wulff, 2000).

Curry & Moore (2003) confirmed the connection between information culture and organizational culture. They used organizational culture as a starting point for their research on information management in healthcare. Finding it difficult to quantify and qualify culture and information, they discussed the need for a tool to measure and develop an information culture. They argued that despite the frequent use of information culture as a concept in the literature, there is no agreed upon definition. They posited that it requires a well developed organizational culture in order for information culture to be nourished. This further clarifies why information culture and organizational culture are intertwined. The two concepts have common attributes in the form of values, assumptions and beliefs. Six years after Davenport’s argument against the focus on information technology as a solution to information management issues, Curry and Moore (2003) also concluded that the adoption of information technology alone is not sufficient. To deliver effective information management information technology has to be complemented with a good information culture.

Information culture was defined by Choo, Furness et al. (2006) as an organization’s values, norms and practices towards the management and use of information. They carried out a case study of a large Canadian law firm where finding, sharing and processing information was critical to the organization’s operations. They argued that information values and information culture play an indispensable role in defining how people share and use information. They considered information behaviours from a perspective of information management, information culture and information use. They claimed that in order for organizations to achieve superior business performance, they should have the following capabilities:

- Information technology practices: the capability to manage IT applications effectively and infrastructure to support operations, business processes, innovation and managerial decision-making.

- Information management practices: the capacity to manage information effectively over the life cycle of information use, including sensing, collecting, organizing, processing and maintaining information.
• Information behaviours and values: the capability to instill behaviours and values in people which promote the effective use of information.

In Oliver (2004, 2008) carried out research in three universities in Australia, Hong Kong and Germany. She explored the concept of information culture and focused on national as well as corporate characteristics that shape organizational culture. Her aim was to establish whether national cultural dimensions impact information cultures. She enhanced an understanding of the interactions of organizational culture with information and its management. Her perspective was that information cultures exist in all organizations. An effective information culture requires effective communication flows, cross-organizational partnerships, co-operative working practices and open access to relevant information, management of information systems, clear guidelines and documentation for information and data management, trust and willingness to share information (Oliver, 2008). She used a multi-dimensional information continuum model which distinguishes the different purposes of information and ensures that the differing perspectives are taken into account. The overall research findings revealed that the overarching societal information management frameworks influence organizational policies. Moreover, the legislative requirements play a crucial role in shaping information cultures. She identified the following factors to characterize the information culture in the three case studies:

• Recognition and acceptance of societal requirements for managing information;
• Recognition and acceptance of organizational requirements for managing information;
• Attitudes to sharing information;
• Utilization of information technology;
• Trust in written documentation; and
• Preference for low or high context communication (Oliver, 2008, p. 379).

Oliver further argued that the adoption of international standards impacts the information frameworks that organizations embrace and how well the organizational members understand, accept and practice the information management values embodied in these frameworks. The features of information governance also reflect the values accorded to information. The case studies further highlighted the need to take into account the context in which information management activities take place. Oliver (2011) postulated that since organizations are part of a broader societal context, in order to diagnose information culture there is need to understand both internal and external factors that influence information management. She emphasized the need to examine the geographical
location of the organization and whether it is multinational or restricted to a region or country the functions of the organization since they determine the legislation that is applied and the standards; and the management of the organization since that reveals the priority given to information management. She further argued that understanding these intertwined factors facilitates a diagnosis of information culture in an organization. Oliver confirmed that information culture is inextricably linked to organizational culture and that the term connotes cultural characteristics that are unique to a particular organization (Oliver, 2011).

Choo, Bergeron, Detior & Heaton (2008) explored the link between information culture and use in three organizations. They tried to establish whether there is a systematic way to identify the information behaviours and values that characterize an organization’s information culture. Their research settings included a public health agency, a national law firm and an engineering company. Amongst the influences they found that shape the information culture of an organization are mission, history, leadership, employee traits, industry and national culture. Again they assert that information culture as a concept has not been adequately explored in current research. The results of their 2006 research demonstrate that different organizational issues need to be effectively managed if information is to be leveraged in a manner that gives a competitive advantage.

Douglas (2010) carried out a qualitative study to explore the values, attitudes, beliefs and behaviours that government departments in Western Australia show towards information. Even though information is pervasive in all government departments, the value the departments ascribe to it and their attitudes and behavior towards it are not well understood. Her study found information culture to be complex, systemic and reflexive. She also identified intricate relationships between information culture and organizational culture, information management and information use. Like Curry and Moore (2003) she asserted that although information culture is frequently used as a concept, there is no agreed upon definition. She highlighted a paucity of research into information culture which is supposed to give organizations a competitive advantage if well aligned with business strategies.

Choo (2013) developed a typology of information culture which includes:

- a result-oriented culture, where the goal of information management is to enable the organization to compete and succeed in its market or section.
- a rule-following culture where information is managed to enable the organization to control internal operations and to reinforce rules and policies.
• a relationship-based culture, where information management aims to encourage communication, participation and a sense of identify and
• in a risk-taking culture, where information is managed to encourage innovation, creativity, and exploration of new ideas.

The result-oriented culture pursues goal achievement and competitive advantage, the rule-following culture pursues control, compliance and accountability, the relationship based culture pursues communication, commitment and participation and the risk taking culture pursues innovation, exploration of new ideas and creativity. He postulated that organizations can display to varying degrees norms and behaviours from all the four information culture types. He concluded that identifying an organization’s culture would facilitate cultural change and hence a systematic implementation of change.

Using a ministry with an informal training records management program, Wright (2013) interviewed 207 employees and explored Curry’s and Moore’s information culture assessment tool. She examined information culture in a regulated government environment. Her aim was to establish the relationship between records management training provided to staff, staff self-perceptions of records management competencies and compliance with a formal records management program. She concluded that there is a correlation between formal training delivered to staff and the self-perceived level of records management competency. This means that the more training that the staff get, the more they perceive the need for further training in order to achieve the level of compliance required by the records management program. She was also of the view that understanding information culture features, is crucial to the identification of gaps in dealing with the challenges of organizational records management training and the effect it has on compliance with organizational information and records management programs. The research on information culture confirmed a correlation between good information management practices and business efficiency. Despite the deployment of information systems, the people issues have to be part of the equation if information is to be utilized to its fullest potential.

3.5 Conclusion

In conclusion, this chapter highlights the changes that have to take place if e-government is to be successfully implemented. The e-Government scholars emphasize restructuring of public administrations and their processes to facilitate the identification, management and sharing of information across organizational units and the integration of information systems. e-Government developments seem to have contributed to the reigning complexity in information and records
management (Asproth, Borglund, Samuelsson, & Öberg, 2010). The review of the e-Government literature highlights the central role information plays amidst e-Government development which relates to the issues that this thesis discusses.

The literature review on records management demonstrates that a lot of research has so far been carried out by records management scholars (Bearman, 1994; Dollar, 2000; Duranti & Preston, 2008; Eastwood, 1994; Gilliland-Swetland, 2000; Shepherd & Yeo, 2003). Records management scholars have written about the challenges of electronic information management, records management best practice issues, information access and the functional requirements for records management systems. However, the challenges are still omnipresent and therefore the review confirms the need to invest in records management skills and knowledge and to integrate it in organizational business processes.

ECM is considered to be a relatively new concept and field. The literature that discusses it from a scientific point of view is only emerging. A few of the identified articles are based on formal research. The majority of the papers identified were either written by practitioners within the information technology industry or scientists in the Information Systems discipline. The ECM approach promotes knowledge management, change management, collaboration, business process management, system integration, enterprise architecture, the life cycle management of information but ECM systems still lack in managing records for long-term. Some of the authors reviewed questioned if ECM is offering anything new compared to established fields such as records management and criticized for the routinization of work processes. Perhaps based on the literature review, one could argue that its potential lies in promoting the above mentioned aspects of an enterprise-wide information management approach. It further focuses on all content in an organization whereas records management has focused on the management of authentic records. The researcher identified two articles discussing ECM and written by scholars in the Archives and Information Science field. There is not much discourse going on between archivists/records managers and ECM proponents. This demonstrates the need for Archives and Information Science scholars to engage in the ECM discourse. This would enhance the role that records management plays in organizations and the society at large but it would also uphold the records management principles. It further demonstrates the need for more formal research in the area.

Researchers pursuing information culture research argue that a lot of focus has been put on information systems and yet, most of the problems related to information management are attributed to people. The literature review on information culture has therefore contributed to an understanding of how the people issues affect the management of records. Information culture researchers have established the correlation between mature information culture and
successful business. The researcher identified one author who has addressed information culture and records management issues. The rest have researched information culture and the management and use of information in general.

No previous research examining the interface between ECM and records management nor much research focusing on the impact information culture on the management of public records has been identified. This research will therefore fill the gap that currently exists on the subject and it further enhances an Archives and Information Science perspective to the ECM discourse. The present study is different from the above reviewed research because it discusses information and records management issues from a different angle. It investigates the interface between two information and records management constructs and information culture and also highlights information management challenges amidst e-Government development. The issues pursued by the reviewed researchers confirm the relevancy of this research. Organizations still face enormous information management challenges and they need to embrace a proactive and holistic approach in order to meet with new information demands.

The chapter that follows presents the characteristics of Enterprise Content Management (ECM) and records management, the legal framework that governs the Swedish information management environment and results from the three studies that were conducted in two Swedish municipalities.